ENVIRONMENTAL INDICATOR REPORT



CA 725 CURRENT HUMAN EXPOSURES UNDER CONTROL

W.G. KRUMMRICH PLANT SAUGET, IL

VOLUME III

Prepared for W.G. Krummrich Plant 500 Monsanto Avenue Sauget, Illinois 62206



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RESULTS OF RCRA CA-725 ENVIRONMENTAL INDICATORS AIR QUALITY SAMPLING

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1.0 INTRODUCTION

TRC Environmental Corporation, under contract with Solutia, Inc., performed an air quality sampling program at Solutia's W.G. Krummrich plant in Sauget, Illinois to facilitate the completion of the Resource Conservation and Recovery Act (RCRA) Human Exposure Environmental Indicators (EI) report (CA-725). The sampling followed a field sampling plan (FSP) presented initially in December 2002 and modified on March 28, 2003 based upon U. S. Environmental Protection Agency (EPA) Region V comments. A copy of the final sampling plan is included as Attachment A.

All samples were collected over the period from March 29 through April 2, 2003. The sampling consisted of 15 soil vapor sample locations and interior locations of four buildings on the W.G. Krummrich plant site and five soil vapor sampling locations on adjacent properties. This report discusses the results of those samples and compares them to the EPA "Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils" (Subsurface Vapor Intrusion Guidance) (67 FR 71169) and to Occupational Safety and Health Administration Permissible Exposure Limits (PELs). However, the comparison to the target indoor air concentrations given in the draft guidance is not considered to be the appropriate measure of risk evaluation in this case. The guidance document notes that "...EPA does not expect this guidance to be used in settings that are primarily occupational." It further notes that "OSHA and EPA have agreed that OSHA generally will take the lead role in addressing occupational exposures." Consequently, the OSHA PELs are considered to be more appropriate for evaluating worker risks arising from exposure to indoor air. Moreover, the target indoor air concentrations listed in Table 2 of the guidance document are based on application of a model in which the receptors at the surface are residents in homes. Thus, the target concentrations in Table 2 are more applicable to a residential exposure than to an occupational scenario.

To satisfy the requirements of the RCRA CA-725 process, the evaluations need to include all the pathways for human exposure from a potential underground source. Human exposure at the workplace is an end point of the air pathway, which this sampling seeks to define. This pathway starts with volatilization or partitioning of constituents from the dissolved plume in ground water below the site. Those constituents are then present as vapors in the soil. An extensive soil vapor sampling program that included simultaneous indoor/outdoor sampling

was conducted in and around specific buildings to determine if vapors from the ground water plume are present in the soil and if a potential human exposure pathway was "complete". If vapors occur in the soil, the pathway continues through the migration of those vapors to the buildings in which people work. Thus, it is the purpose of this sampling to determine whether such a pathway exists and, if so, to what extent any measurable indoor concentrations are due to this pathway or to other sources. It is important to recognize that sources from the outdoor environment and from within the building can also impact ambient indoor air quality. These other sources are independent of the potential underground sources.

2.0 INDOOR AIR QUALITY SAMPLING

Samples were collected at four buildings on the W.G. Krummrich plant site (the building locations are shown on the map, Figure 1 in Attachment B):

- BBZ Storeroom
- BBG West Shop
- CCB East Shop
- BK Administration Building.

These buildings were selected because plant personnel were assigned to these buildings to perform administrative functions (office work) and the buildings are not closed and designed with high volume air exchange systems. This design, which is used at the operations control buildings at the plant, minimizes migration of soil vapors into interior air spaces.

Indoor air samples were collected on March 29, 2003, when the buildings were being heated. Ambient temperatures during the indoor air sampling ranged from 41° - 46°F. Qualitative airflow measurements at exterior doorways confirmed that the buildings sampled were under negative pressure, the expected result in the heating season.

Samples were collected indoors over 8-hour periods in the buildings at locations within the breathing zones of workers. For three buildings, a sample was also taken simultaneously at the fresh air intake; at the fourth building (BBZ), a sample was collected at the air intake to the office area. This was necessary to differentiate between sources related to interior operations, ambient exterior air, and soil vapors. The sampling occurred during the weekend day shift to minimize the disturbance to the personnel working in the area and to obtain samples not affected by normal workday activities. By sampling during the weekend day shift, the possibility of sample contamination from another source (workers clothes and shoes) was greatly reduced.

Samples were analyzed using EPA Method TO-15 for the analysis of a list of target volatile organic compounds (VOCs), while Method TO-13 was used for semi-volatile organic compounds. The results are summarized in Table 2-1, and the laboratory reports are presented in Attachment C. None of the results were above the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PELs). Air concentrations were above the EPA target indoor concentrations at and only two locations. It is emphasized that TABLE 2-1 only contains the compounds that were detected in the samples. All compounds not listed in this table were not detected. A description of the results in each building is presented below.

Table 2-1: Indoor/Outdoor Air Sampling Results (in ppbv)

Date of Sampling: March 29, 2003

	Target Indoor	OSHA	PEL Limit		ling BBZ	Buildi	ng BBG	Buildi	ng CCB	Building BK Administration			
	Concen -tration (ppbv)	(ppbv)	(ppbv)	Offices	Warehouse	Indoors	Outdoor Air at Bldg. Intake	Indoors	Outdoor Air at Bldg. Intake	Indoors 1 st Floor	Indoors Basement	Outdoor Air at Bldg. Intake	
Sample No. (abbreviated)				BBZ-O	BBZ-I	BBG-0	BBG-I	ССВ-О	CCB-I	BK-1st	BK-Dist	BK-1	
Method TO-15 R	esults												
Benzene	9.8	1,000	0.86	ND	ND	0.86*	ND	ND	0.92*	ND	ND	ND	
Methylene Chloride	150	25,000	0.86	60	25	87	ND	440	3.1	13	24	2.2	
Chlorobenzene	13	75,000	0.86	ND	ND	0.86*	ND	1.6	1.0*	ND	ND	0.94*	
4-Methyl-2- Pentanone (methyl isobutyl ketone, MIBK)	20	200,000	3.4	130	160	5.4	ND	ND	ND	ND	ND	ND	
Methyl Ethyl Ketone (2-butanone, MEK)	340	200,000	3.4	20	22	21	9.8	ND	ND	ND	ND	ND	
Acetone	150	100,000	3.4	7.4	5.2	110	ND	20	3.4*	4.4	4	4.5	

Method TO-13 semi-volatile organic compounds were not detected.
All samples collected on March 29, 2003.
"ND" indicates not detected (detection limits are below target concentrations).
* Sample is at or near detection limit

Building BBZ - Storeroom

This building is primarily a warehouse with offices and some small production areas. The offices chosen for sampling have a ceiling-mounted air handling system that draws and conditions air from inside the warehouse. Inside the offices, low concentrations of acetone, methyl ethyl ketone (MEK), and methylene chloride were detected. All of these concentrations were well below the target indoor air levels and the OSHA PELs. These compounds were also detected in the air intakes for the offices. The other compound detected, 4-methyl-2-pentanone (methyl isobutyl ketone or MIBK) was detected in concentrations above the target indoor air concentration listed in the Subsurface Vapor Intrusion Guidance, but orders of magnitude below the OSHA PELs. As with the other compounds detected in this building, a slightly higher concentration was measured at the air intake to the offices.

In addition, a soil vapor sample was taken immediately adjacent to the BBZ building (sample SVP-16). The result shows small amounts of MIBK (3.9 ppbv), but none of the other target compounds were detected. The next closest soil vapor sample, across the street approximately 100 feet to the east (SVP-12), did not contain any MIBK. MIBK was found in the soil vapors of SVP-14, which is some 1,000 feet north of the BBZ building.

Thus, it can be concluded that the MIBK found in Building BBZ offices most likely came from the ambient (outdoor) air or internally in the warehouse. It should be noted that over a million pounds of product is stored in the storeroom. The product is manufactured from various ketone compounds (including MIBK) and, as such, could be a source of MIBK due to offgassing. As well, the offices are used by personnel from the nearby manufacturing areas. As a consequence, there is continuous traffic into and out of the office areas. Further, all personnel who work in this area have undergone hazard awareness training and are familiar with the hazards of the workplace.

Building BBG – West Shop

The indoor air sample from Building BBG contained the following compounds:

- Benzene
- Methylene Chloride
- Chlorobenzene
- MIBK
- MEK

Acetone

The concentrations of benzene and chlorobenzene were at the detection threshold and an order of magnitude below target concentrations. The concentrations of MIBK, MEK and methylene chloride were all below target indoor concentrations and the OSHA PELs. MEK was detected in the intake air sample, however no other compounds were detected in the building intake sample.

Building CCB - East Shop

The indoor air sample at this building contained methylene chloride above the target indoor air concentration, but almost two orders of magnitude below the OSHA PEL. There was also a trace concentration of methylene chloride in the intake air suggesting an outdoor air source was partly responsible. There were also low concentrations of chlorobenzene and acetone, but these compounds were also in the intake air suggesting that ambient air is at least a partial source. Acetone is a solvent that can be found as a component of cleaning or degreasing solutions at the shop. Benzene was found in concentrations near the detection limit in the intake air, but not inside the building.

Soil vapor sample SVP-9 was collected approximately 300 feet south of the CCB building (Note: Sample probe SVP-7, located adjacent to Building CCB, was saturated on the date of the sampling, so a vapor sample could not be collected). The sample from SVP-9 contained tetrachloroethene and 1, 2-dichlorobenzene. These compounds were not detected in Building CCB. Sample SVP-9 did not contain any methylene chloride. It is useful to note that methylene chloride was detected in all of the indoor air samples, but was not found in any soil vapor sample.

These data suggest that the compounds found in Building CCB most likely came from the ambient air or a source in the building. The latter source is considered to be the most likely. Methylene chloride has been commonly used as a degreaser in shop areas within the plant. Hence, it would not be surprising to detect it in indoor air at low concentrations.

BK Administration Building

Two samples were collected indoors at worker breathing zones in Building BK, one on the first floor and one in the basement. Methylene chloride and acetone were detected at concentrations below the indoor air target concentrations and the OSHA PELs. Acetone was detected at a similar concentration in the intake air to the building; methylene chloride was also detected in the intake air at a concentration less than the concentration in the indoor air sample. Chlorobenzene was found in the intake air at concentrations near the detection limit. However, chlorobenzene was not found in the building.

The soil vapor sample next to the BK building (SVP-6) contained low concentrations of MIBK and acetone, but no detectable methylene chloride. MIBK was not detected in the building indoor air sample. This soil vapor sample contained tetrachloroethene (PCE) at concentrations above the target concentration for shallow soil vapor, but PCE was not detected in either the ambient air or the building interior air samples.

Ambient Air Samples

General ambient air samples were taken in conjunction with the soil vapor sampling, i.e., on the same dates and time of the soil vapor samples (refer to Figure 1 for the soil vapor sampling locations). These samples were taken on the east side of the plant (at soil vapor points SVP-9 and SVP-17) and on the west side of the plant (at soil vapor points SVP-1 and SVP-21). These samples showed small concentrations of chlorobenzene, 1,4-dichloroethane, acetone and methylene chloride. Acetone was detected in three of the four samples and the other compounds were detected in only one sample each. Table 2-2 shows these sample results. These samples confirm that these compounds are present in the general ambient air. However, the concentrations are well below both the target indoor air levels defined in the draft EPA guidance and the OSHA PELs.

2.1 Summary of the Indoor Air Sampling Results

With only two exceptions (discussed below) the measurements taken indoors in the four selected buildings showed concentrations below the EPA target concentrations for indoor air. Of all volatile organic compounds in the shallow groundwater, only five appeared in any building's intakes or indoor air. Two of these (benzene and chlorobenzene) were close to the detection limits and appeared infrequently. Acetone was often present both indoors and outdoors at relatively low levels. MEK and MIBK were present near the ketone production area and in the ambient air as well. Finally, methylene chloride was not found in the shallow soil vapors, but was present in the ambient air both indoors and outdoors. No semi-volatiles in the shallow ground water appeared in any of the indoor air samples.

<u>Table 2-2</u>:
Ambient Air Sampling Results (ppbv)

Method TO-15	Target Indoor	OSHA PEL	Detection Limit	Sampling Dates									
	Concentrat ion			March 31, 2003 (SVP-Background Sample-033103)	April 1, 2003 AM (Background Air Sample-040103- AM)	April 1, 2003 PM (Background Air Sample-040103- PM)	April 2, 2003 (SVP-23-SG- 040203)						
Methylene Chloride	150	25,000	0.98	ND	ND	ND	7.6						
Chlorobenzene	13	75,000	0.96	ND	2.6	ND	ND						
Acetone	150	100,000	3.8	ND	4.7	4.1	19						
1,4 Dichloro- benzene			6.96	ND	1.5	ND	ND						

[&]quot;ND" represents not detected (detection limits are below target concentrations).

The methylene chloride in Building CCB is, most likely, from a source inside the building, although there is likely also some minor contribution from the ambient outside air. Similarly, the MIBK in the Building BBZ office air sample also appears to be from the ambient (warehouse) air. The source of the ambient air concentrations does not appear to be soil vapor in the areas near the Building BBZ.

In summary, therefore, although the indoor air in two of the four buildings sampled exceeded the target indoor air concentrations defined for a residential exposure scenario by the EPA Subsurface Vapor Intrusion Guidance, the concentrations were well below the applicable OSHA PELs, which are considered to be the appropriate standard. Further, the compounds detected in the buildings did not appear to be the result of volatilization from shallow groundwater. Rather, the source(s) of these compounds appear(s) to be the indoor and/or outdoor ambient air and, possibly, product stored within the buildings themselves.

3.0 SOIL VAPOR SAMPLING

A total of 20 soil vapor locations were sampled. Of these, 15 were on the plant and selected specifically for the purpose of determining the soil vapor concentrations that might result in vapor intrusion into buildings. The other five were grab samples taken along the benzene pipeline that runs from the plant toward the river to determine if the pipeline was a potential source of benzene leakage.

3.1 <u>In Plant Soil Vapor Sampling</u>

Seventeen soil vapor probes (SVP-1 through SVP-17) were installed at the approximate locations shown on the map in Attachment B. Although sampling was attempted at all locations, two locations (SVP-7 and SVP-13) could not be sampled due to saturated conditions on the date of sampling.

The analytical results are summarized in Table 3-1 and the laboratory reports are presented in Attachment C. Overall, eleven target VOCs were detected using Method TO-15; only one semi-volatile organic compound (SVOC) was detected using Method TO-13. The target shallow soil gas concentrations from the EPA's Subsurface Vapor Intrusion Guidance document are also listed in Table 3-1 next to the detected compounds. These target concentrations are considered to be screening levels for the potential for intrusion of the specific compounds into overlying or immediately adjacent buildings. However, it is emphasized that the screening is only relevant as an indicator of the possible intrusion into adjacent buildings. If no buildings are in the immediate vicinity of the sample location, or if sampling in an adjacent building does not result in the detection of the screened compound, then the screening exercise should not be used as an indicator of possible human health risk.

It should be noted that as part of the field and laboratory sampling procedures, a volatile tracer (tetrafluoroethane) was used to identify leaks in the sampling apparatus. That volatile tracer was detected in some samples, and those samples are noted in the "Comments" row of Table 3-1. In the instances where the tracer was detected, there is the possibility of leakage of ambient outdoor air into the sample during sampling or intrusion of laboratory air during analysis.

3.1.1 Samples With Elevated Results

There were two samples in which soil vapor concentrations were consistently above the

		Soil Vapo	or S	8000000	ble 3 plin	88888888		lts (pp	bv)									
	Target Shallow Soil Gas Concentrations	Limit	Concentration in Soil Gas Sample																
Sample Location (SVP-#):			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Method TO-15:											D	D				D			
4-Methyl-2-pentanone (MIBK)	200			ND			l	ND	J	ND	ND	ND			١	72000			
1,1,1-Trichholoethane	4000			ND				ND	.	ND	D	ND		9.8	1.		ND	L	
Tetrachloroethene	48			ND				150		1.1*	55	ND	92	2.9		ND	ND		
Chlorobenzene	130	0.94	ND	ND	ND	ND	ND	ND	ାଘ	ND	ND	31000	ND	ND		2200	20	ND	ND
1,2-Dichlorobenzene	330	0.94	ND	ND	ND	ND	ND	ND	ַΣ	ND	46	870	ND	ND	≥	ND	8.2	ND	ND
1,4-Dichlorobenzene	1300	0.94	ND	ND	ND	ND	ND	ND	⋖	ND	D	4500	ND	ND	<	ND	3.2	ND	ND
Chloroform	22	0.94	ND	ND	ND	ND	ND	ND	ဟ	11	2	ND	ND	ND	ဟ	ND	ND	ND	ND
Benzene	98	0.94	ND	1*	ND	ND	ND	ND		1.5	Ŋ	680	ND	ND]	1100	ND	ND	3.5
Acetone	1500	3.7	7.6	ND	ND	ND	ND	6.7		11	ND	ND	ND	ND		ND	ND	ND	11
Methylene Chloride	1500	0.94	ND	ND			L	ND		ND	ND	ND		ND	į.	ND.	ND	ND	ND
2-Butanone (MEK)	3400	3.7	ND	ND	ND	ND	ND	ND	0	ND	ND	ND	ND	ND	0	ND	ND	ND	ND
			_						z			<u> </u>			z				
Method TO-13			ND	ND	ND	ND	ND	ND	-	<u></u>	ND	ND	ND	ND			ND	ND	ND
Aniline	N/A	0.05**				-	-		-							0.43			
Comments					leak?	•					leak?								leak?

^{*} Near Detection Limit

[&]quot;ND" represents not detected (detection limits are below target concentrations except where noted with a "D" at the top of the column).

[&]quot;N/A" Not Applicable
"Leak?" denotes where the tracer gas was detected in the sample, either from leakage during field sampling or during laboratory analysis
"Based upon a detection limit of 1 ug and an average sample volume of 20 liters

target concentrations. Soil vapor sampling point SVP-10 is in the southeastern corner of the plant. It is immediately above an area known to have shallow VOCs and SVOCs in high concentrations in ground water. This soil vapor sample contained benzene, chlorobenzene, and two isomers of dichlorobenzene in concentrations above the target concentrations. However, this sample is in an area that does not have nearby buildings and, thus, does not pose a potential human health risk from vapor intrusion into buildings.

The compounds do not appear to be migrating to the ambient air in any appreciable concentrations. All of the ambient air and indoor measurements contained only very small concentrations of two of these compounds (benzene and chlorobenzene) and neither of the two dichlorobenzene isomers was detected. One of the outdoor ambient air samples (at location SVP-9) was located within 500 feet of this soil vapor sampling point.

Sample SVP-14 is located in the ketone manufacturing area of the northwestern portion of the plant. The soil vapor sample at this location contained MIBK, chlorobenzene, and benzene. It also contained a small quantity of the semi-volatile aniline. There are no buildings near this sampling location and, hence, vapor intrusion will not be an issue. As with SVP-10, the benzene and chlorobenzene are not found in significant concentrations in any of the ambient air samples and it is unlikely that the soil vapors are escaping into the ambient air. Additionally, no aniline was found in the ambient air. MIBK was found in the BBZ and BBG buildings, although these buildings are far enough away that the SVP-14 location is an unlikely source for an airborne pathway to those buildings. Further, the SVP-14 soil vapor probe was installed through 3 to 4 inches of asphalt, meaning that it is highly unlikely that vapors are emitted to the ambient air at that location.

Tetrachloroethene (PCE) was detected above the target concentration at three locations (SVP-6, SVP-9, and SVP-11). Although PCE was detected in samples from locations SPV-6, next to the BK Building, and SVP-11, across the street from Building BK, no detectable tetrachloroethene was found in the air samples taken in or around this building. This suggests that even though tetrachloroethene is present in the soil vapors, it is not entering the building or mixing with the ambient air. At SVP-9, which is in the southeastern corner of the plant, the tetrachloroethene was reported at a concentration slightly above the target concentration. Again, it was not measured in Building CCB ambient indoor air sample or the intake air sample.

No other soil vapor samples contained any compounds that were detected at concentrations even approaching the target concentrations. In fact, only a limited number of

analytes were detected in any of the soil vapor samples.

3.2 Benzene Pipeline Samples

Five soil vapor samples were collected along the benzene pipeline and analyzed for target VOCs by Method TO-15 to determine the potential for soil vapor contamination by the pipeline. These samples were taken as grabs rather than by pumping from probes driven into the soil as was done on the plant site. A summary of the results is presented in Table 3-2 and the locations are shown on the map (Figure 1 in Attachment B). Only two analytes were detected, acetone and MEK, at concentrations which were orders of magnitude less than the target shallow soil gas concentrations.

Benze	<u>Tal</u> me Pipeline Soil V	ole 3-2; apor Grab S	amples	(ppbv)						
	Target Shallow Soil Gas Concentrations	Detection Limit	Concentration in Soil Gas Sample							
Sample Locations (SVP-#)			18	19	20	21	22			
Method TO-15			**							
Acetone	1500	3.7	6.3	5.6	4.2	12	9			
MEK	3400	3.7	8.4	11	5.5	ND	8			

[&]quot;**" denotes where the tracer gas was detected in the sample

[&]quot;ND" represents not detected (detection limits are below target concentrations).

4.0 <u>DATA QUALITY ISSUES</u>

4.1 Samples Collected

The indoor/building intake sampling was completed at all the intended locations. During the initial installation of the soil vapor probes, one of the planned locations, adjacent to the BBG building, was omitted However, since the results from the sample collected within the BBG Building were all less than the target indoor concentrations, no soil vapor data was necessary at that location and the probe was not subsequently installed.

Two soil vapor sample locations were abandoned because the soil vapor probe filled with water. One of these, SVP-7, was also next door to a building (CCB). Since the issue at CCB is methylene chloride and methylene chloride was not detected in any the other soil vapor samples, it is reasonable to conclude that it is not present at SVP-7. The other site which was abandoned was SVP-13, near the previous location of a benzene tank and over areas identified with high shallow ground water concentrations. SVP-2 is less than 200 feet west of SVP-13. Benzene was the only compound detected in this sample, at a concentration close to the detection limit. The sample from SVP-15, to the southeast of SVP-13, contained only minor concentrations of a few compounds.

The volatile tracer gas (tetrafluoroethene) was detected in four samples at concentrations up to 2,100 ppbv. The presence of the gas indicates leakage either during field sampling, when ambient outdoor air could have entered the sample, or during laboratory analysis, when ambient laboratory air could have entered the sample. In either case, the results at these locations may not be entirely representative of soil vapor concentrations, as acetone, methylene chloride, chlorobenzene, and 1,4-dichlorobenzene were detected in the background air samples.

Method TO-13 was added to the sampling program to obtain data on semi-volatile compound concentrations. The sample preservation methods employed were not consistent with the method in all respects. It was noted by the laboratory that all samples were not refrigerated and not returned to the laboratory in the original reflective sleeves. The use of the sleeves would reduce the likelihood of absorbing contaminants from the plastic shipping bag. The detection of aniline in only a few samples and not in the field blank suggests that this error did not compromise the samples. Refrigeration would reduce the likelihood of organic compound degradation or volatilization loss between collection and analysis. The short sample turnaround times (72 hours) and the use of Method TO-15 for the VOCs should minimize the influence of

this error on data quality. Icing was done on the second set of soil vapor samples sent to the laboratory and no semi-volatile, other than aniline, was detected. Consequently, although these deficiencies are noted, it appears unlikely that they compromised data quality.

Duplicate samples were taken daily throughout the soil vapor sampling exercise. In addition, an indoor air duplicate sample was taken in the basement of the administration building (BK) and a background air duplicate sample was collected. The duplicate sample results are as follows:

I		icate Comparison (ppb <mark>v</mark> K-Basement)	·)
Analytes	Original	Duplicate	Ratio
Acetone	4.0	4.1	1.03
Methylene Chloride	24	18	0.75

Bac		iplicate Comparison (pj -23 Duplicate)	obv)
Analytes	Original	Duplicate	Ratio
Acetone	19	18	0.95
Methylene Chloride	7.6	7.3	0.96

Soil Vapo	r Sample Duplicate	Comparison (ppbv)	
Samples/Analytes	Original	Duplicate	Ratio
SVP-10 / SVP-100			
Benzene	680	660	0.97
Chlorobenzene	31000	32000	1.03
1,2-Dichlorobenzene	870	810	0.93
1,4-Dichlorobenzene	4500	4400	0.98
SVP-14 / SVP-140			
Benzene	1100	1100	1.00
Chlorobenzene	2200	2300	1.05
MIBK	72000	75000	1.04
Aniline	8.6	6.4	0.74
SVP-4/SVP-4 Duplicate	all non-detect	all non detect	
SVP-12/SVP-12 Duplicate			
1,1,1-Trichloroethane	9.8	9.4	0.96
Tetrachloroethene	2.9	2.8	0.97
SVP-8/SVP-8 Duplicate			
Chloroform	11	11	1.0
Benzene	1.5	1.6	1.07
Tetrachloroethene	1.1	1.1	1.0
Acetone	11	12	1.09

All trip blanks and laboratory blanks had no detections of any analyte.

5.0 <u>CONCLUSIONS</u>

The intensive sampling of soil vapor, indoor ambient air, and outdoor ambient air conducted during March 29 through April 2, 2003 leads to the following conclusions:

- The impacted shallow groundwater beneath the W. G. Krummrich plant is not resulting in unacceptable indoor air quality at the plant. In two process area buildings (BBZ and CCB), VOCs were detected in the office area samples at concentrations above the EPA target indoor concentrations (MIBK and methylene chloride, respectively), but well below the OSHA PELs for these compounds. The draft EPA Subsurface Intrusion Guidance notes that these target indoor air concentrations are not intended for use in industrial exposure scenarios and that OSHA guidelines are more appropriate in these circumstances. The presence of these compounds is apparently due to outdoor air sources and/or sources within these buildings. The analytical results for the soil vapor sample collected adjacent to Building BBZ (SVP-16) supports the conclusion that soil vapor is not the primary source of the VOCs detected in the indoor air. In the case of Building CCB, the only analyte which exceeded the target indoor air concentration was methylene chloride, which was detected in all the indoor air samples and none of the soil vapor samples, suggesting a common indoor source. A soil vapor sample was not collected immediately adjacent to Building CCB for comparison, due to an apparently high water table on the date of sampling, but the nearest soil vapor sample, approximately 300 feet from the building, did not contain methylene chloride. In both cases, the measured concentrations in indoor air are well below the OSHA PELs.
- Indoor air samples collected from Buildings BBG and BK (administration building) did
 not contain target analytes at concentrations above the EPA target indoor concentrations.
- Benzene, chlorobenzene, or isomers of dichlorobenzene (the largest components of the plumes in ground water below the site) were not found in significant amounts in any of the buildings. The amounts found were slightly above the detection limits and were orders of magnitude below the EPA target indoor concentrations and the OSHA PELs. The logical source for those minimum detectable concentrations found is the ambient air.

- The soil vapor sampling showed five locations with concentrations above the EPA soil
 vapor target concentrations. These samples were not located in areas with buildings and
 there is no evidence of migration (either through the soil, or in the air) to the buildings
 sampled. One of these sample points was below an asphalt cover.
- The benzene pipeline does not appear to be leaking to the soil.

Attachment A

Field Sampling Plan and Field Data Summary Sheets

Soil Vapor Probe Installation and Sampling Protocol

Sampling Objective/Approach

Soil vapor samples will be collected at the 17 on-site locations. The intent is to collect samples during cold weather (March) and warm weather (June), so permanent soil vapor sampling probes will be installed.

In areas above the plume where no buildings are present or where buildings are built on slab, shallow soil vapor samples will be collected at a probe depth of 5 to 6 feet below grade, which will place the probe sufficiently deep to minimize temperature and barometric pressure fluctuations. In areas above the plume where buildings with basements or lower levels are present (Building BK, the main office building), soil vapor samples will be collected at a probe depth at or below the lowest floor or basement level. The soil vapor implant depths will be targeted to more-permeable soil zones within the target depths. In the event that water-saturated conditions are encountered at or above the target probe depth, the probe depth will be modified to above the depth of saturation.

Probe Installation and Sampling Equipment

The following equipment is recommended for soil vapor probe installation and soil vapor sampling:

- direct-push drilling rig with GeoprobeTM Macrocore sampler, acetate liners, probe tip, and probe rods;
- GeoprobeTM stainless-steel implant (AT 86, or similar), 6" length;
- GeoprobeTM implant anchor (PR14 or equivalent);
- GeoprobeTM glass beads (AT84), or clean silica sand;
- flexible Teflon tubing, 1/4-inch outer diameter;
- flexible Tygon tubing of appropriate sizes to connect drive tubing to SUMMA canister and to the sorbent-media tubes;
- tubing fittings: plugs, ferrules, nuts, 'T's;
- SUMMA canister (6 liter) with vacuum gauge and restrictive inlet (45-minute and 90-minute fill time);
- bentonite (granular or powdered) and potable water;
- wind socks or flags;
- narrow metal tape measure or foldable fiberglass ruler;
- decontamination equipment;
- volatile tracer gas (tetrafluoroethane) in cans;
- field book, data logging forms, and chain-of-custody forms;
- flags, stakes, or other means to mark and label sampling locations;
- health and safety gear appropriate to the job; and
- miscellaneous tools (wrench, scissors, knife).

In addition, soil samples will be collected from the probe depths at the boring locations near the four buildings for analysis for total organic carbon and moisture content. Laboratory-prepared sample bottles, sampling spatulas, insulated coolers, ice and plastic bags (or blue ice), and packing materials will also be required equipment.

Sampling Point Installation Procedures

The soil vapor probe construction is depicted in Figure C-1. Placement of the soil vapor probes will proceed as follows:

- Identify and mark the vapor probe locations in advance; Solutia personnel will clear all locations for the presence of utilities. Label locations with unique identification numbers.
- Core pavement at paved locations to allow placement of a protective valve box upon completion.
- Advance the Macrocore sampler to the desired depth and withdraw the sampler; log the sampler return at locations where logs are not available.
- Collect and log the soil sample from the probe depth at the four boring locations near buildings. The sample will be collected directly from the acetate liner and placed into laboratory-supplied sample jars for analysis for total organic carbon and moisture content. Preserve the soil samples by storing and shipping on ice (4°C).
- Assemble the probe anchor, probe implant, and tubing (include sufficient excess tubing length to protrude from the upper end of the drive tubing) into a probe assembly.
- Install the anchor end of the probe assembly to the desired depth within the borehole either manually or by using the probe rods (use of the probe rods will be required if the boring collapses). Measure the depth to the probe implant.
- Backfill the annular space around the probe implant with glass beads; if the borehole collapses, the probe assembly will be installed into the probe rods and the implant will be advanced to the desired depth; the backfilling would then be accomplished through the probe rods.
- Similarly, backfill the remainder of the annular space to within approximately one foot of grade with bentonite chips, slightly hydrating the chips every six inches when constructing in an open hole, or hydrating upon withdrawal of the probe rods (to avoid bridging), if constructing within the probe rods.
- Cap the upper end of the tubing as soon as possible in the procedure.
- Secure the top of the installation by installing a valve box or a protective casing, as appropriate for the location.
- Secure the upper end of the tubing within the valve box or protective casing.

Decontaminate downhole equipment which contacts the soil by washing with lab-grade detergent and potable water and rinse with potable water.

A written record will be kept of the sampling point depth and construction.

Soil Vapor Sampling Procedures

Soil vapor sampling will proceed several days following the sampling point installation using the procedures described below. The soil vapor samples will be collected and analyzed for several volatile organic compounds and several semivolatile organic compounds, as listed below:

Volatile Organic Compounds (VOCs)	Semi-Volatile Organic Compounds (SVOCs)
by Method TO-15	by Method TO-13
h	ii

bromodichlorobenzene carbon disulfide 1,1-dichloroethane chloroform methylene chloride vinyl chloride tetrachloroethane trichloroethene 1,2-dichloroethene naphthalene chlorotoluene bromoform tert-butylbenzene benzene chlorobenzene 1.2-dichloroethane 1,1,1-trichloroethane acetone 2-butanone (MEK) methyl isobutyl ketone (MIBK) o-dichlorobenzene p-dichlorobenzene

aniline
chloroaniline
phenol
chlorophenol
dichlorophenol
nitrochlorobenzene
trichlorophenol
nitrobenzene
pentachlorophenol

The variety of analytes will necessitate the use of two sample collection devices: 1) SUMMA canisters and 2) sorbent media. Analyses will be conducted using USEPA Methods TO-15 and TO-13, respectively, by Air Toxics, Inc. of Rancho Cordova, CA. The two sampling methods will be employed sequentially: first by SUMMA canister followed by collection on the sorbent media. The samples collected by SUMMA canisters will be collected over a period of 45 minutes (flow rate of 0.11 liters/minute) using a flow-restrictive inlet. The samples collected on sorbent media will be collected using pre-calibrated air pumps and laboratory-supplied media; the duration of sampling will be approximately 120 minutes or more, sufficient to draw 20 liters of soil vapor

across the collection media at a rate of less than 0.2 liters/minute (lpm). Sampling times will be doubled and flow rates will be halved for the duplicate samples.

- Note the wind direction at the sampling location and record.
- Screen the ambient air with a PID and record reading.
- Connect the pump to the probe apparatus.
- Start the pump, and evacuate a volume equal to three to five sampling apparatus volumes at a low flow rate (0.2 lpm or less); record the flow rate and duration and calculate the volume removed.
- Wait for the vacuum to dissipate in the tubing.
- Remove the pump and immediately connect the SUMMA canister and 45-minute flow restrictor to the probe tubing (use 90-minute flow restrictor and Teflon 'T' for duplicate samples). Record the canister number.
- Open the valve to the SUMMA canister. Record the time.
- During the first five (5) minutes of sampling, periodically direct the tracer gas liberally around the tubing connections and around the well head.
- Return to recover the canister within 45 minutes after initiation of sampling (90 minutes for the duplicate samples).
- Close the valve to the SUMMA canister. Close the valve on the tracer gas cylinder.
- Open one sorbent media tube and break the seals; attach the downstream side to the intake side of the pump.
- Remove the SUMMA canister and immediately install the sorbent-media and pump assembly using a short length of Tygon tubing or a Teflon union.
- Start the pump at a low flow rate (target rate of 0.15 liters/minute) and record the time and flow rate. (When collecting the duplicate sample, set each of the pumps at a flow rate of less than 0.075 liters/minute, so the total withdrawal rate is approximately 0.15 liters/minute).
- Remove the flow restrictor from the SUMMA canister and pack the canister for shipping.
- Operate the pump for a sufficient duration to pull 20 liters of soil vapor across the media; record the pumping rate and duration.
- Record the pump serial number.
- Remove and cap the sorbent-media tube. Pack tube for shipping.
- Post-calibrate the pump at the end of each sampling day.
- Cap the tubing and secure the probe head.

Site conditions at the time of sampling, such as ambient air temperature and wind direction, will be recorded frequently during the sampling day. An example field data form is attached. The barometric pressure for the sampling period will be obtained from the nearest weather recording station (Lambert-St. Louis International Airport, St. Louis, MO) and barometric pressure readings will also be collected using an on-site barometer. In the event of a soaking rain, sampling will be postponed until 12 hours after the rainfall event.

Quality Assurance/Quality Control

Care will be taken to avoid possible sources of cross contamination (e.g., gasoline, solvents, etc.) during on-site storage of sampling media. In addition, care will be taken to keep vehicles away from sampling locations during sampling set up and during sampling.

One potential interference in implementing the soil gas sampling procedure is the possibility of atmospheric air entering the sampling train and the sample. This will be minimized by construction of a bentonite seal above the sampling inlet at all locations. A tracer gas will be used at the well head of at least 50% of the wells to check for leakage. In addition, the number of tubing connections will be minimized. Ambient air samples (morning and afternoon of each sampling day) will also be collected.

Contamination of sample containers, such as inadequate canister cleaning or contamination during shipping, are possible sources of sample interference. To address this concern, the laboratory will certify the canisters and a canister blank will be collected. This canister blank will also serve as a trip blank for the SUMMA canisters. A trip blank will also be collected for the sorbent media tubes.

Duplicate samples will be collected to assess analytical reproducibility.

These quality assurance samples will be collected as follows:

Ambient Air/Background Sample: Two samples of ambient air (morning and afternoon) will be collected associated with each day of sampling. A location will be selected in the vicinity of one of the sampling probe locations. The samples will be collected simultaneous to the collection of the soil vapor sample by attaching the flow inlet to the SUMMA canister, setting the intake to a height of two feet above grade, and opening the valve to allow filling at a rate similar to the soil vapor sampling rate. The sample for semivolatile organic analysis using sorbent media will be collected using a calibrated pump.

Duplicate Samples: Duplicate samples will be collected at a rate of one in twenty or a minimum of one per day. Locations above the plume will be selected for the duplicate samples. A 'T' will be installed on the soil vapor probe tubing instead of the straight-line connector and two SUMMA canisters will be attached, allowing the simultaneous connection of two SUMMA canisters over a 90-minute period. Similarly, for the collection of a duplicate sample for semivolatile organic analysis, and separate tubes and pumps will connected to the 'T' to allow simultaneous sampling.

Trip Blank/Canister Blank: Each batch of SUMMA canisters, since they are reusable and subject to decontamination at the laboratory, will certified clean by the laboratory. In addition, one canister per shipment, to be labeled "trip blank"-mm/dd/yy, will remain empty (under negative pressure) during the trip to and

from the field. The trip/canister blank will be packaged along with the soil vapor samples for the return trip to the laboratory for analysis. Upon arrival at the laboratory, it will be filled in the laboratory with lab-grade nitrogen and submitted for analysis. The trip blank for the sorbent media will be prepared by uncapping an unused tube, breaking the ends, capping the tube, and labeling and packing the tube for shipment (this will serve as both a check on field and shipping conditions).

Samples will be analyzed by the laboratory within 48 hours of receipt or within 72 hours of sample collection.

Sample Labeling and Handling

Sample canisters and sorbent media will arrive from the laboratory in a shipping carton.

All samples will be uniquely labeled using a consistent sample-numbering system which will differentiate these samples from other media collected from the same sample locations, as follows

For soil gas samples:

Sample location-media-date, e.g., xxxx-SG-03/28/03

For soil samples, the sample depth (in feet below grade) will be included in place of the date:

Sample location-media-depth, e.g., xxxxx-SOIL-2-3

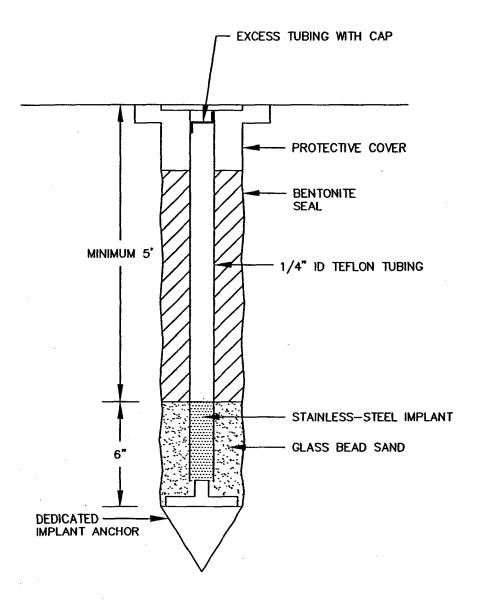
The ambient air blank and duplicate samples will be blind-labeled. The samples will be re-packaged in the shipping cartons for return shipment from the site to the laboratory, and will be shipped overnight delivery using common carrier. The canisters and sorbent tubes will be packed to prevent breakage; no additional packing, such as ice or cold packs, is required. All sample shipments will be accompanied by a chain-of-custody form noting sample numbers, sample times, requested analyses/methods, sampler names, and signatures of sample handlers.

The lead sampler will notify the laboratory of the shipment of the samples to the laboratory and will confirm arrival.

References:

"How to Collect Reliable Soil-Gas Data for Risk-Based Applications, Part 1: Active Soil Gas Method", Blayne Hartman, LUSTLine Bulletin, October 2002.

Sample No.:	Date:								
Client: Solutia, Inc.	Site Location: W.G. Krummrich Plant Sauget, IL								
Samplers:									
Volatile Organic Compound Sampling	SemiVolatile Organic Compou								
Pump No.	Pump No.:								
Purge rate (cc/min):	Purge rate (cc/min):								
Purge duration (min):	Target purge duration (min)								
Purge volume (cc):	Purge start time:								
Canister No.:	Purge finish time:								
Flow restrictor (min):	Actual purge duration (min):								
Start time:	Sample no.:								
Start vacuum reading (mm Hg):	Duplicate sample?:								
Finish time:	Duplicate sample no.:								
Finish vacuum reading (mm Hg):									
Tracer used?:									
Duplicate sample?:									
Duplicate canister no.:									
Victor (curlicut tomorphism homospin manning									



NOT TO SCALE



5 Waterside Crossing Windsor, CT 06095 (860) 298–9692

SOLUTIA INC. SAUGET, ILLINOIS

SOIL GAS SAMPLING POINT CONSTRUCTION

12/18/02

Project No. 38182-0000-00000

Table 1 SOIL GAS SAMPLING POINT CONSTRUCTION SUMMARY SOLUTIA - SAUGET, ILLINOIS MARCH, 2003

Soil Que Sampling Location ID Date of Installation Type of Protective Cover	3/20/03	3/20/03	3/20/03	3/20/03	3/20/03	3/20/03		3/20/03		3/21/03	3/21/03	3/21/03	3/21/03	3/21/03	3/21/03	3/21/03	SVP-47 3/25/03 Road Box
(All units in feet below grade) Total Boring Depth	6.08	6.08	6	6.08	6.08	12	5.5	5.5	4.75*	6.5	6.08	6.08	5 *	5.5	6.17	5*	5**
Depth Interval of Bentonite Seal	0 - 5.3	0 - 5.3	0 - 5	0 - 4.83	0.5 - 5.17	0.5-10.5	0.5 - 4.75	0.5 - 4.5	0.5 - 4	1.5 - 5.83	0.5 - 5.33	0.5 - 5.17	0.5 - 4	0.5 - 4.67	0.5 - 4.92	0.5 - 4.25	0.5 - 4.17
Depth Interval of Implant	5,5 - 6	5.5 - 6	5.5 - 6	5.5 - 6	5.5 - 6	11.5 - 12	5 - 5.5	5 - 5.5	4,25 - 4.75	6 - 6.5	5.5 - 6	5,5 - 6	4.5 - 5	5 - 5.5	5.5 - 6	4.5 - 5	4.4 - 4.9
Depth Interval of Glass Bead Sand	5.3 - 6	5.3 - 6	5-6	4.83 - 6	5,17 - 6	10.5 - 12	4.75 - 5.5	4.5 - 5.5	4 - 4.75	5.83 - 6.5	5.33 - 6	5.17 - 6.08	4 - 5	4.67 - 5.5	4.92 - 6.17	4.25 - 5	4.17 - 4.92

`

Solutia Proj # 38182-Dennis P. Ryder Field Notes – 3/29/03

BK Building

Barametric Pressure:

- Exterior of building = 29.92
- Inside Distribution area = 29.96
- Inside Rick Moore Office (1st floor) = 29.96

Temperature: (°F)

- Exterior of Bldg = 41.8
- Inside of Dist area = 70.3
- Inside of Rick Moore Office (1st Floor) = 70.0

Air Flows: (fpm)

- From exterior into Dist Areas = 150
- From Training area into Dist Area = 50
- From Rick Moore Office into outer common area = 20
- From exterior into intake of AHU (on roof) = 150 (area of intake = 7' * 4')

- Distribution Area has tile floor and finished walls (Basement area)
- 1st floor Office areas have tile floors and finished walls
- AHU is located on roof

CCB Building

Barametric Pressure:

- Exterior of building = 29.92
- Interior of office = 29.92

Temperature: (°F)

- Exterior of building = 41.9
- Interior of office = 71.4

Air Flows: (fpm)

- Exterior into firetruck bay area = 300
- From office into firetruck bay area = 25
- From office into shop area = 25
- Exterior into shop area = 200

- Office area has tile floors
- Shop area & fire truck bay areas have cement slab
- Walls are cinder block

BBG Building

Barametric Pressure:

- Exterior of building = 29.93
- Inside of office = 29.90

Temperature: (⁰ F)

- Exterior of building = 46.1
- Inside of office = 59.6

Air Flows: (fpm)

- From office to shop area = 140
- From exterior into shop area = 400

- Cement floor in office area
- Space (approx ½ inch) where slab meets cinder block walls
- No visable cracks in floor

BBZ Building

Barametric Pressure:

- Office area = 29.89
- storage area = 29.88
- exterior of bldg = 29.89

Temperature: (⁰ F)

- storage area = 69.6
- exterior of bldg = 49.7
- inside office area = 67.7
- at AHU intakes = 72.2

Air Flows: (fpm)

- from storage area into office area = 25
- At AHU intake = 25
- From exterior into storage area = 325

- The AHU for the Office Area is located on the office roof. The office & office roof are located within the BBZ building. The air-intakes for the office AHU are located in the BBZ building.
- Some minor cracks in slab
- Gaps (approx ½ inch) where slab meets exterior walls (block)
- Office area has tile floor-painted cinder block wall

Vapor Probe No.: SVP-1	Date: 34/1/03
Client: Solutia, Inc.	Site Location: W.G. Krummrich Plant
Samplers: 1265 ML	Sauget, IL

Volatile Organic Compound Sampling		SemiVolatile Organic Compound Sampling	
Pump No.	3579	Pump No.:	
Purge rate (cc/min):	200	Purge rate (cc/min):	150
Purge duration (min):	2	Target purge duration (min)	135
Purge volume (cc):		Purge start time:	1349
Canister No.:	33876	Purge finish time:	1604
Flow restrictor (min):	45	Actual purge duration (min):	135
Start time:	1246	Sample no.:	54-1-56-6490
Start vacuum reading (mm Hg):	28.5	Duplicate sample?:	N
Finish time:	33	Duplicate sample no.:	
Finish vacuum reading (mm Hg):			<u> </u>
Tracer used?:			
Duplicate sample?:	\sim	7	
Duplicate canister no.:			·

BP=29.5 PID=0	Notes (barometric pressure reading	g and time, modifications to samp	ple train, etc.):
10in00 20	BP=29.5	PID = 0	
- HOVE TO TO THE TOTAL THE	temp: 72		
Wind = from S	Wind = from S		

Vapor Probe No.: SUP-Z	Date: 4/1/03
Client: Solutia, Inc.	Site Location: W.G. Krummrich Plant
Samplers: M. Danzolla	Sauget, IL

Volatile Organic Compound Sampling		SemiVolatile Organic Compound Sampling	
Pump No.	0899	Pump No.:	3553
Purge rate (cc/min):	200	Purge rate (cc/min):	150
Purge duration (min):	Z	Target purge duration (min)	135
Purge volume (cc):		Purge start time:	1135
Canister No.:	22501	Purge finish time:	1350
Flow restrictor (min):	45	Actual purge duration (min):	135
Start time:	1047	Sample no.:	5VP-Z
Start vacuum reading (mm Hg):	29	Duplicate sample?:	No
Finish time:	1132	Duplicate sample no.:	_
Finish vacuum reading (mm Hg):	q		
Tracer used?:	Yes		•
Duplicate sample?:	No		
Duplicate canister no.:	<u></u>		

Baron, Press - 29.5	P10 = 0	
Temp - 79	•	

Vapor Probe No.: SUP - 3	Date: 4/1/03	
Client: Solutia, Inc.	Site Location: W.G. Krummrich Plant	
Samplers: M. Donzella	Sauget, IL	

Volatile Organic Compound Sampling		SemiVolatile Organic Compound Sampling	
Pump No.	0899	Pump No.:	9345
Purge rate (cc/min):	200	Purge rate (cc/min):	150
Purge duration (min):	2	Target purge duration (min)	135
Purge volume (cc):		Purge start time:	1146
Canister No.:	405	Purge finish time:	1401
Flow restrictor (min):	45	Actual purge duration (min):	135
Start time:	1100	Sample no.:	5VP-3
Start vacuum reading (mm Hg):	28	Duplicate sample?:	No
Finish time:	1145	Duplicate sample no.:	
Finish vacuum reading (mm Hg):	7		
Tracer used?:	Yes		•,
Duplicate sample?:	No		
Duplicate canister no.:	~		

Baron. Press 29,5	P1D= Ø	- F
Temp - 79		

Vapor Probe No.: SVP-04	Date: 4/01/03	
Client: Solutia, Inc.	Site Location: W.G. Krummrich Plant	
Samplers: KL3 ML	Sauget, IL	

Volatile Organic Compound Sampling		SemiVolatile Organic Compound Sampling	
Pump No.	3579	Pump No.:	8850
Purge rate (cc/min):	200	Purge rate (cc/min):	150
Purge duration (min):	2	Target purge duration (min)	135
Purge volume (cc):		Purge start time:	1145
Canister No.:	15679	Purge finish time:	1400
Flow restrictor (min):	45	Actual purge duration (min):	135
Start time:	1053	Sample no.:	SVP-4-56-040
Start vacuum reading (mm Hg):	28.5	Duplicate sample?:	No
Finish time:	1138	Duplicate sample no.:	
Finish vacuum reading (mm Hg):	8.0		
Tracer used?:	Yes		•
Duplicate sample?:	No		
Duplicate canister no.:		-	

Notes (barometric pressure reading and t	time, modifications to sample train, etc	:.) :
BP=29.55	P10 = Ø	
Temp-70°C		
Wind = from SW		

Vapor Probe No.: SVP-5	Date: 4/1/03
Client: Solutia, Inc.	Site Location: W.G. Krummrich Plant
Samplers KLIML	Sauget, IL

Volatile Organic Compound Sampling		SemiVolatile Organic Compound Sampling	
Pump No.	3579	Pump No.:	3456
Purge rate (cc/min):	200	Purge rate (cc/min):	150
Purge duration (min):	2	Target purge duration (min)	135
Purge volume (cc):		Purge start time:	0926
Canister No.:	12003	Purge finish time:	1141
Flow restrictor (min):	45	Actual purge duration (min):	135
Start time:	0837	Sample no.:	5VP-5-561-040
Start vacuum reading (mm Hg):	28.5	Duplicate sample?:	N
Finish time:	0922	Duplicate sample no.:	_
Finish vacuum reading (mm Hg):	8. 5		
Tracer used?:	Yes.		•
Duplicate sample?:	7		
Duplicate canister no.:	·		

Notes (barometric pressure re	eading and time, modifications to	sample train, etc.):	
BP=29.55	P 10 = Ø	· · · · · · · · · · · · · · · · · · ·	
temp=66°C			
Wind from Sw		:	
•			

Vapor Probe No.: SVP - 6	Date: 3/31/03	
Client: Solutia, Inc.	Site Location: W.G. Krummrich Plant	
Samplers: M. Donzella	Sauget, IL	

Volatile Organic Compound Sampling		SemiVolatile Organic Compound Sampling	
Pump No.	3579	Pump No.:	3546
Purge rate (cc/min):	200	Purge rate (cc/min):	150
Purge duration (min):	2	Target purge duration (min)	135
Purge volume (cc):		Purge start time:	1530
Canister No.:	945	Purge finish time:	1745
Flow restrictor (min):	45	Actual purge duration (min):	135
Start time:	1443	Sample no.:	5VP-6
Start vacuum reading (mm Hg):	29	Duplicate sample?:	No
Finish time:	1528	Duplicate sample no.:	
Finish vacuum reading (mm Hg):	9		•
Tracer used?:	Yes] 	
Duplicate sample?:	No	1	
Duplicate canister no.:			

Duplicate canister no.:				
Notes (barometric pressure readi	ng and time,	modifications	to sample train, etc.):
Wind from SE				,
Baiametric Pressure	- 29.6	5		
Temp - 65			-	, , , , , , , , , , , , , , , , , , , ,

Vapor Probe No.: 5V ?- 8	Date: 3/31/03
Client: Solutia, Inc.	Site Location: W.G. Krummrich Plant
Samplers: ML/KL	Sauget, IL

Volatile Organic Compound Sampling		SemiVolatile Organic Compound Sampling	
Pump No.	3579	Pump No.:	3175
Purge rate (cc/min):	200	Purge rate (cc/min):	150
Purge duration (min):	a	Target purge duration (min)	135
Purge volume (cc):		Purge start time:	1200
Canister No.:	1052	Purge finish time:	14 15
Flow restrictor (min):	45	Actual purge duration (min):	135
Start time:	1110	Sample no.:	5UP-8-66-8331
Start vacuum reading (mm Hg):	29.0	Duplicate sample?:	No
Finish time:	1159	Duplicate sample no.:	
Finish vacuum reading (mm Hg):	80		
Tracer used?:	y		•
Duplicate sample?:	N		
Duplicate canister no.:	_		

Notes (barometric pressure reading an	d time, modifications to sample train, etc.):	
B9-29.8	P10 = 622n	
Tem=6/,0	<i>)</i> -11	
W= SE		

Vapor Probe No.: SVP-9	Date: 3 31 03
Client: Solutia, Inc.	Site Location: W.G. Krummrich Plant
Samplers: KL3 ML	Sauget, IL

Volatile Organic Compound Sampling		SemiVolatile Organic Compound Sampling	
Pump No.	3579	Pump No.:	3181
Purge rate (cc/min):	200	Purge rate (cc/min):	150
Purge duration (min):	2	Target purge duration (min)	135
Purge volume (cc):		Purge start time:	1550
Canister No.:	433	Purge finish time:	1805
Flow restrictor (min):	45	Actual purge duration (min):	135
Start time:	1457	Sample no.:	SVP-9
Start vacuum reading (mm Hg):	28.5	Duplicate sample?:	
Finish time:	1542	Duplicate sample no.:	
Finish vacuum reading (mm Hg):	8.5		
Tracer used?:	Yes		
Duplicate sample?:] ·	
Duplicate canister no.:			

Notes (barometric pressure reading a	nd time, modifications to sample tra	in, etc.):	
BP= 29.65	PID= Ø		
Temp= 60°F			
Wind fum South			

Vapor Probe No.: SVP-10/SVP-100	Date: 3 31 03
Client: Solutia, Inc.	Site Location: W.G. Krummrich Plant
Samplers: KL3 ML	Sauget, IL

Volatile Organic Compound Sampling		SemiVolatile Organic Compound Sampling	
Pump No.	3579	Pump No.:	3187 /0283
Purge rate (cc/min):	200	Purge rate (cc/min):	75
Purge duration (min):	2	Target purge duration (min)	\$ 270
Purge volume (cc):		Purge start time:	1421
Canister No.:	9201	Purge finish time:	1851
Flow restrictor (min):	60	Actual purge duration (min):	270
Start time:	1312	Sample no.:	5UP-10.
Start vacuum reading (mm Hg):	30/29	Duplicate sample?:	Yes
Finish time:	1412	Duplicate sample no.:	SVP=100
Finish vacuum reading (mm Hg):	8/9		
Tracer used?:	Yes		•
Duplicate sample?:	Yes		·
Duplicate canister no.:	33989		

otes (barometric pressure reading and tin		
BP= 29.7	P10= Ø	
temp= 65°C	·	
Wind = from SE		

Vapor Probe No.: 50P-11	Date: 3/31/03
Client: Solutia, Inc.	Site Location: W.G. Krummrich Plant
Samplers: M. Donzella	Sauget, IL

Volatile Organic Compound Sampling		SemiVolatile Organic Compound Sampling	
Pump No.	3579	Pump No.:	3534
Purge rate (cc/min):	200	Purge rate (cc/min):	150
Purge duration (min):	Z	Target purge duration (min)	135
Purge volume (cc):		Purge start time:	1550
Canister No.:	31147	Purge finish time:	1805
Flow restrictor (min):	45	Actual purge duration (min):	135
Start time:	1503	Sample no.:	5VP-17
Start vacuum reading (mm Hg):	78.5	Duplicate sample?:	No
Finish time:	1548	Duplicate sample no.:	- ,
Finish vacuum reading (mm Hg):	8,5		
Tracer used?:	Yes		•
Duplicate sample?:	No	1	
Duplicate canister no.:	· · ·		

Nator (horomotric programs and ing and time, and if actions to govern their ato):	
Notes (barometric pressure reading and time, modifications to sample train, etc.):	
Wind from SE	
Baranetric Pressure - 29.65	
Temp - 105	

Vapor Probe No.: 5VP-12	Date: 3/31/03
Client: Solutia, Inc.	Site Location: W.G. Krummrich Plant
Samplers: M. Donzella	Sauget, IL

Volatile Organic Compound Sampling		SemiVolatile Organic Compound Sampling	
Pump No.	3579	Pump No.:	0899
Purge rate (cc/min):	200	Purge rate (cc/min):	150
Purge duration (min):	2	Target purge duration (min)	135
Purge volume (cc):		Purge start time:	1043
Canister No.:	6993	Purge finish time:	1258
Flow restrictor (min):	45	Actual purge duration (min):	135
Start time:	9:56	Sample no.:	5VP-12
Start vacuum reading (mm Hg):	28,5	Duplicate sample?:	No
Finish time:	1041	Duplicate sample no.:	
Finish vacuum reading (mm Hg):	8,5		
Tracer used?:	Yes	1	•
Duplicate sample?:	No	-	
Duplicate canister no.:	_	1	
	1	i	

Notes (barometric pressure reading and time, modifications to sample train, etc.):

Barametric pressure - 29.8

Teme - 58

Strong sulfur odor

Wind from SE

in the air

Vapor Probe No.: SVP - 14	Date: 4 / 1 / 03
Client: Solutia, Inc.	Site Location: W.G. Krummrich Plant
Samplers: M. Donzella	Sauget, IL

Volatile Organic Compound Sampling		SemiVolatile Organic Compound Sampling	
Pump No.	0899	Pump No.:	3187 / 344
Purge rate (cc/min):	200	Purge rate (cc/min):	75
Purge duration (min):	7	Target purge duration (min)	270
Purge volume (cc):		Purge start time:	919
Canister No.:	9563	Purge finish time:	1349
Flow restrictor (min):	60	Actual purge duration (min):	270
Start time:	816	Sample no.:	SVP - 14
Start vacuum reading (mm Hg):	29/26	Duplicate sample?:	Yes
Finish time:	916	Duplicate sample no.:	SVP-140
Finish vacuum reading (mm Hg):	8.5 / 4		•
Tracer used?:	Yes		•
Duplicate sample?:	Yes	1	
Duplicate canister no.:	20935	1	

Baron. Press - 29,5	P10- Ø	
Temp 65	·	
Wind from SE		, , , , , , , , , , , , , , , , , , , ,

Vapor Probe No.:	SVP-15	Date: 3 31 03
Client: Solutia, Inc.		Site Location: W.G. Krummrich Plant
Samplers:	Li ML	Sauget, IL

Volatile Organic Compound Sampling		SemiVolatile Organic Compound Sampling	
Pump No.	3579	Pump No.:	3546
Purge rate (cc/min):	200	Purge rate (cc/min):	150
Purge duration (min):	2	Target purge duration (min)	135
Purge volume (cc):		Purge start time:	1149
Canister No.:	20997	Purge finish time:	1404
Flow restrictor (min):	45	Actual purge duration (min):	135
Start time:	1100	Sample no.:	SVP-15-54-0331
Start vacuum reading (mm Hg):	29.0	Duplicate sample?:	N
Finish time:	1145	Duplicate sample no.:	
Finish vacuum reading (mm Hg):	9.0		
Tracer used?:	Yes		•
Duplicate sample?:	N		
Duplicate canister no.:	_		

tes (barometric pre				mple train, etc.):	
	Wing	1 from	SE		
ten	np = 60	1°F			
nu	inetic	bressure	= 29,80	· · · · · · · · · ·	

Vapor Probe No.: SVP-16	Date: 3 31 03
Client: Solutia, Inc.	Site Location: W.G. Krummrich Plant
Samplers: KL, ML, MD, DR	Sauget, IL

Volatile Organic Compound Sampling		SemiVolatile Organic Compound Sampling	
Pump No.	3579	Pump No.:	3534
Purge rate (cc/min):	200	Purge rate (cc/min):	150
Purge duration (min):	2	Target purge duration (min)	135
Purge volume (cc):		Purge start time:	1022
Canister No.:	1621	Purge finish time:	1237
Flow restrictor (min):	45	Actual purge duration (min):	135
Start time:	0937	Sample no.:	848-16-56-0331
Start vacuum reading (mm Hg):	29.0	Duplicate sample?:	N
Finish time:	1022	Duplicate sample no.:	
Finish vacuum reading (mm Hg):	8,5	Bananetre pressur: 29.8 -kmp 58°F	
Tracer used?:	Mes	kmp 58 F	
Duplicate sample?:	N	1	
Duplicate canister no.:			

Notes (barometric pressure reading and time, modifications to sample train, etc.):	
Wind fun SE	

Vapor Probe No.: SVP-17	Date: 4/1/03
Client: Solutia, Inc.	Site Location: W.G. Krummrich Plant
Samplers: KL3 ML	Sauget, IL

Volatile Organic Compound Sampling		SemiVolatile Organic Compound Sampling	
Pump No.	3579	Pump No.:	3181
Purge rate (cc/min):	200	Purge rate (cc/min):	150
Purge duration (min):	2	Target purge duration (min)	135
Purge volume (cc):		Purge start time:	0952
Canister No.:	14415 R-5	Purge finish time:	1207
Flow restrictor (min):	45	Actual purge duration (min):	135
Start time:	08250900	Sample no.:	WP-17-56-04010
Start vacuum reading (mm Hg):	29 31	Duplicate sample?:	N
Finish time:	10 0150 145	Duplicate sample no.:	
Finish vacuum reading (mm Hg):	9	* Cannister 1	120
Tracer used?:	Yes	-1	
Duplicate sample?:	N	pressure after 30 mm. Replace ul new cannister	
Duplicate canister no.:		1 salect tur	45 min aga

Notes (barometric pressi	re reading and time, modifications to sample to	rain, etc.):
P= 29.5	PID= Ø	
emp = 66°C	,	

Soil Vapor Sampling Field Form: Probe#				
Sample No.: 5VP-18-8-040203	Date: 4 2 03			
Client: Solutia, Inc.	Site Location: W.G. Krummrich Plant Sauget, IL			
Samplers KLIML	Bauget, IL			

Volatile Organic Compound Sampling		SemiVolatile Organic Compound Sampling	
Pump No.	3579	Rump No.:	
Purge rate (cc/min):	200	Purge rate (cc/min):	
Purge duration (min):	5	Target purge duration (min)	
Purge volume (cc):		Purge start time:	
Canister No.:	9583	Purge finish time:	
Flow restrictor (min):	45	Actual purge duration (min):	
Start time:	0901	Sample no.:	
Start vacuum reading (mm Hg):	28.5	Duplicate sample?:	
Finish time:	8946	Duplicate sample no.:	
Finish vacuum reading (mm Hg):	8.0		
Tracer used?:	Yes		
Duplicate sample?:	N		
Duplicate canister no.:	_		

Notes (ambient temperature, barometric pressure reading and time, modifications to sample train, etc.):

BP = 29.55

PID = 0.9

Func depth = 6

Wind = furn South

· Soil Vapor Sampling Field Form: Probe#		
Sample No.: <u>8VP-19-84-040283</u>	Date: 4/2/03	
Client: Solutia, Inc.	Site Location: W.G. Krummrich Plant Sauget, IL	
Samplers: WS ML	<u> Duugot, no</u>	

Volatile Organic Compound Sampling		SemiVolatile Organic Compound Sampling	
Pump No.	3579	Pump No.:	/
Purge rate (cc/min):	200	Purge rate (cc/min):	
Purge duration (min):	5	Target purge duration (min)	
Purge volume (cc):		Purge start time.	
Canister No.:	2 2	Purge finish time:	/
Flow restrictor (min):	45 '	Actual purge duration (min):	\
Start time:	1025	Sample no.:	
Start vacuum reading (mm Hg):	28.5	Duplicate sample?:	
Finish time:	1110	Duplicate sample no.:	
Finish vacuum reading (mm Hg):	WHO B.O		
Tracer used?:	Yes		
Duplicate sample?:	N		
Duplicate canister no.:		1	

72 A.O. A.	
BP= 29.55 P1D=D	
Temp: 68 Probe to 6'	
Wind from South	

Soil Vapor Sampling Field Form: Probe# 8VP.20 Sample No.: 8VP-20-Sta-040203 Date: 42/03 Client: Solutia, Inc. Site Location: W.G. Krummrich Plant Sauget, IL

Volatile Organic Comp	ound Sampling	SemiVolatile Organi Samplin	-
Pump No.	3579	Pump No.:	
Purge rate (cc/min):	200	Purge rate (cc/min):	
Purge duration (min):	5	Target purge duration (min)	
Purge volume (cc):		Purge start time:	
Canister No.:	9916	Purge finish time:	
Flow restrictor (min):	45	Actual purge duration (min):	
Start time:	1054	Sample no.:	
Start vacuum reading (mm Hg):	29.0	Duplicate sample?:	
Finish time:	1139	Duplicate sample no.:	
Finish vacuum reading (mm Hg):	8,8		
Tracer used?:	7		ş
Duplicate sample?:	N		
Duplicate canister no.:	~	1	

Notes (ambient temperature, baro	metric pressure reading an	d time, modifications to sample train, etc.):
BP=29.55	P10= Ø	." ^ * * * * * * * * * * * * * * * * *
Temp=71	Protecto le	
Wind Run South		

Soil Vapor Sampling Field Form: Probe# 8 パター 21世紀

Sample No.: <u>SVP-21-54-040203</u>	Date: 2 2 03
Client: Solutia, Inc.	Site Location: W.G. Krummrich Plant
Samplers: VL3ML	Sauget, IL

Volatile Organic Comp	ound Sampling	SemiVolatile Organi Samplin	-
Pump No.	3579	Fump No.:	
Purge rate (cc/min):	200	Purge rate (cc/min):	
Purge duration (min):	5	Target purge duration (min)	
Purge volume (cc):		Purge start time:	
Canister No.:	13658	Purge finish time:	·
Flow restrictor (min):	45	Actual purge duration (min):	
Start time:	1223	Sample no.:	
Start vacuum reading (mm Hg):	29.0	Dupligate sample?:	
Finish time:	1308	Duplicate sample no.:	
Finish vacuum reading (mm Hg):	8.5		
Tracer used?:	YES		· •
Duplicate sample?:	7		
Duplicate canister no.:	7		

Notes (ambient temperature,	barometric pressure reading and time, n	nodifications to sample train, etc.):
_Temp=715F	n0=0	
RP = 29.55	Proper to 6	
Wind from	South	

Soil Vapor Sampling Field Form: Probe# SNP-22 Sample No.: SNP-22-56-040203 Date: 4/2/03 Client: Solutia, Inc. Site Location: W.G. Krummrich Plant Sauget, IL Samplers: 1/2/103

Volatile Organic Comp	ound Sampling	SemiVolatile Organic Compound Sampling
Pump No.	3579	Rump No.:
Purge rate (cc/min):	200	Purge rate (cc/min):
Purge duration (min):	5	Target purge duration (min)
Purge volume (cc):		Purge start time:
Canister No.:	3387	Purge finish time:
Flow restrictor (min):	45	Actual purge duration (min):
Start time:	1304	Sample no.:
Start vacuum reading (mm Hg):	28	Duplicate sample?:
Finish time:	1349	Duplicate sample no.:
Finish vacuum reading (mm Hg):	8	
Tracer used?:	YES	
Duplicate sample?:	N	
Duplicate canister no.:		

Notes (ambient temperature,	barometric pressure reading and time, m	nodifications to sample train, etc.):	
BP=2955	Mo= Ø		
Temp=71	Place to Col		•
Wind from SE			

· Soil Vapor	Sampling Field Fo	orm: Probe#	SVP-23	(Amblen r Air)
Sample No.: <u>&VP-23</u>	5-89-040203	Date: 4/2/03		
Client: Solutia, Inc.		Site Location: W. Sa	G. Krummric uget, IL	h Plant
Samplers: <u>U</u> S	ML		,	
Volatile Organic C	ompound Sampling	1.	e Organic Co Sampling	ompound
Pumn No		Pump No -		

Volatile Organic Comp	ound Sampling	SemiVolatile Organ Samplin	•
Pump No.		Pump No.:	
Purge rate (cc/min):		Purge rate (cc/min):	
Purge duration (min):		Target purge duration (min)	
Purge volume (cc):		Purge start time:	
Canister No.:	14889	Purge finish time:	
Flow restrictor (min):	45	Actual purge duration (min):	
Start time:	1218	Sample no.:	
Start vacuum reading (mm Hg):	29.5	Duphcate sample?:	
Finish time:	1303	Duplicate sample no.:	
Finish vacuum reading (mm Hg):	9		
Tracer used?:	N	·	
Duplicate sample?:	N		
Duplicate canister no.:			, , , , , , , , , , , , , , , , , , ,

Notes (ambient temperature, ba	rometric pressure readi	ng and time, modification	ons to sample train, etc.):	
Temp=71°F	P10-9	·_		
BP - 29.55				
Windfrm S				
				_

Vapor Probe No.: BACKGROUND SANWOKE Date: 3 31 03

Client: Solutia, Inc. Site Location: W.G. Krummrich Plant
Samplers: LL 5 M L

Volatile Organic Compound Sampling		SemiVolatile Organic Compound Sampling	
Pump No.		Pump No.:	8850
Purge rate (cc/min):	·	Purge rate (cc/min):	150
Purge duration (min):		Target purge duration (min)	135
Purge volume (cc):		Purge start time:	1552
Canister No.:	9947	Purge finish time:	. 1807
Flow restrictor (min):	45	Actual purge duration (min):	135
Start time:	1502	Sample no.;	Buetground Sar
Start vacuum reading (mm Hg):	28	Duplicate sample?:	
Finish time:	1547	Duplicate sample no.:	
Finish vacuum reading (mm Hg):	7,5		
Tracer used?:	Yes		•
Duplicate sample?:			
Duplicate canister no.:	·		

Notes (barometric pressure reading	g and time, modifications to sample train, etc	: .) :
Temp= 60°T	P10= Ø	
BP= 29.65		
What fun S		

Vapor Probe No .: Ballymund ar Sample	040103- Date: 9/1/03
Client: Solutia, Inc.	Site Location: W.G. Krummrich Plant
Samplers: KL3 ML	Sauget, IL

Volatile Organic Comp	ound Sampling	SemiVolatile Organic Compound Sampling		
Pump No.	·	Pump No.:	8850	
Purge rate (cc/min):		Purge rate (cc/min):	150	
Purge duration (min):		Target purge duration (min)	135	
Purge volume (cc):		Purge start time:	0909	
Canister No.:	425	Purge finish time:	1124	
Flow restrictor (min):	45	Actual purge duration (min):	135	
Start time:	0823	Sample no.:	Backgarunel au Sample 040103-Ar	
Start vacuum reading (mm Hg):	28.5	Duplicate sample?:	-	
Finish time:	0908	Duplicate sample no.:		
Finish vacuum reading (mm Hg):	8.0			
Tracer used?:	N		•	
Duplicate sample?:		1	•	
Duplicate canister no.:		1		

s (barometric pressure reading a	nd time, modifications to sample trai	n, etc.):
BP= 295	P10= Ø	
temp: 66° F		
Wind-from SW		

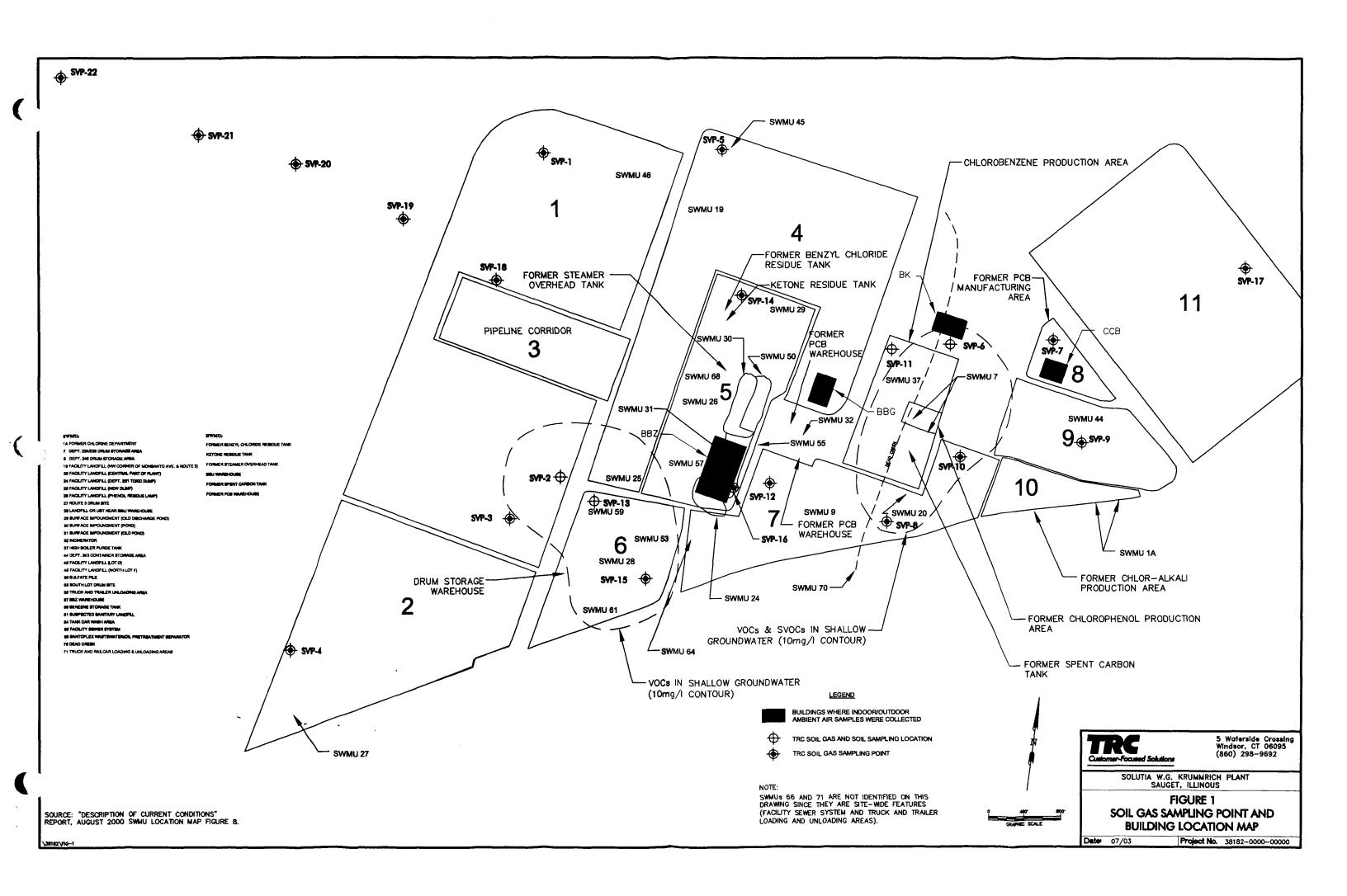
Vapor Probe No.: <u>Backgraund</u>	240103-PM aursample Date: 4/1/03
Client: Solutia, Inc.	Site Location: W.G. Krummrich Plant Sauget, IL
Samplers:	

Volatile Organic Compound Sampling		SemiVolatile Organic Compound Sampling		
Pump No.		Pump No.:	3181	
Purge rate (cc/min):		Purge rate (cc/min):	150	
Purge duration (min):		Target purge duration (min)	135	
Purge volume (cc):		Purge start time:	1246	
Canister No.:	31151	Purge finish time:	1501	
Flow restrictor (min):	45	Actual purge duration (min):	135	
Start time:	1242	Sample no.:		
Start vacuum reading (mm Hg):	29	Duplicate sample?:	N	
Finish time:	1327	Duplicate sample no.:	/	
Finish vacuum reading (mm Hg):	8.5			
Tracer used?:	17]		
Duplicate sample?:	7			
Duplicate canister no.:				

Notes (barometric pressure reading and ti	me, modifications to sample train, e	etc.):
BP=29.5	PD=0	
temp = 72	•	
Winds from S		

Attachment B

Soil Gas Sampling Point and Building Location Map



Attachment CLaboratory Reports



Air Toxics Ltd. Introduces the Electronic Report

Thank you for choosing Air Toxics Ltd. To better serve our customers, we are providing your report by e-mail. This document is provided in Portable Document Format which can be viewed with Acrobat Reader by Adobe.

This electronic report includes the following:

- Work order Summary;
- Laboratory Narrative;
- · Results; and
- · Chain of Custody (copy).

AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0

0304090

Work Order Summary

CLIENT:

Mr. Gary Ritter

BILL TO:

Mr. Gary Ritter

TRC Environmental Corporation

т

TRC Environmental Corporation

5 Waterside Crossing Windsor, CT 06095

5 Waterside Crossing Windsor, CT 06095

PHONE:

860-298-6300

P.O. #

FAX:

PROJECT#

38182 Solutia/Sauget

DATE RECEIVED:

4/3/03

CONTACT:

Betty Chu

DATE COMPLETED:

4/15/03

			RECEIPT
FRACTION#	NAME	TEST	VAC./PRES.
01A	SVP-18-SG-040203	Modified TO-15/TIC	9.5 "Hg
02A	SVP-19-SG-040203	Modified TO-15/TIC	9.0 "Hg
03A	SVP-20-SG-040203	Modified TO-15/TIC	9.5 "Hg
04A	SVP-21-SG-040203	Modified TO-15/TIC	9.5 "Hg
05A	SVP-22-SG-040203	Modified TO-15/TIC	9.0 "Hg
06A	SVP-23-SG-040203	Modified TO-15/TIC	9.5 "Hg
06AA	SVP-23-SG-040203 Duplicate	Modified TO-15/TIC	9.5 "Hg
07A	Lab Blank	Modified TO-15/TIC	NA
08A	CCV	Modified TO-15/TIC	NA
09A	LCS	Modified TO-15/TIC	NA

CERTIFIED BY:

Sinda d. Fruman

ATE: 04/15/03

Laboratory Director

Certification numbers: AR DEQ, CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004 NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/02, Expiration date: 06/30/03

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

LABORATORY NARRATIVE Modified TO-15

TRC Environmental Corporation Workorder# 0304090

Six 6 Liter Summa Canister samples were received on April 03, 2003. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.5 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis. See the data sheets for the reporting limits for each compound.

Method modifications taken to run these samples include:

Requirement	TO-15	ATL Modifications
BFB acceptance criteria	CLP protocol	SW-846 protocol
Concentration of IS spike	10 ppbv	25 ppbv when 0.5/2.0 ppbv is used for the reporting limt
Dilutions for initial calibration	Dynamic dilutions or static using canisters	Syringe dilutions
IS recoveries	Within 40% of mean over ICAL for blanks, and w/in 40% of daily CCV for samples.	Within 40% of CCV recoveries for blank and samples.
Daily CCV	30% Difference	30% Difference with two allowed out up to 40%.
Primary ions for Quantification	Freon 114: 85, Carbon Tetrachloride: 117, Trichloroethene: 130, Ethyl Benzene, m,p- and o-Xylene: 91	Freon 114: 135, Carbon Tetrachloride: 119, Trichloroethene: 95, Ethyl Benzene, m,p- and o-Xylene: 106

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The reported CCV for each daily batch may be derived from more than one individual analytical file due to the client's request for non-standard compounds.

Specific analytes that are requested by the client to be reported as tentatively identified compounds (TICs) are determined by searching for each compound's characteristic spectra. If no chromatographic peak displaying the compound specific spectra exists, then the TIC is reported as not detected. Please note that the laboratory has not evaluated the stability of any heretofore tentatively identified compound in the vapor phase or for efficiency of recovery through the analytical system.

By specific client request, Tetrafluoroethane was reported as a tentatively identified compound (TIC) to assist in evaluation of the client sampling system.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
 - J Estimated value.
 - E Exceeds instrument calibration range.
 - S Saturated Peak.
 - Q Exceeds quality control limits.
 - U Compound analyzed for but not detected above the reporting limit.
 - UJ- Non-detected compound associated with low bias in the CCV
 - N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

SAMPLE NAME: SVP-18-SG-040203

ID#: 0304090-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

- 『本文····································	File Name: Dil. Factor:	d040324 Date of Collection: 4/2/03 1.96 Date of Analysis: 4/4/03	
---	----------------------------	---	--

Compound	Rɒt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.98	2.5	Not Detected	Not Detected
Methylene Chloride	0.98	3.5	Not Detected	Not Detected
1,1-Dichloroethane	0.98	4.0	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.98	3.9	Not Detected	Not Detected
Chloroform	0.98	4.9	Not Detected	Not Detected
1,1,1-Trichloroethane	0.98	5.4	Not Detected	Not Detected
Benzene	0.98	3.2	Not Detected	Not Detected
1,2-Dichloroethane	0.98	4.0	Not Detected	Not Detected
Trichloroethene	0.98	5.4	Not Detected	Not Detected
Tetrachloroethene	0.98	6.8	Not Detected	Not Detected
Chlorobenzene	0.98	4.6	Not Detected	Not Detected
alpha-Chlorotoluene	0.98	5.2	Not Detected	Not Detected
Acetone	3.9	9.5	6.3	15
Carbon Disulfide	3.9	12	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.9	16	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.9	12	8.4	25
Bromodichloromethane	3.9	27	Not Detected	Not Detected
4-Methyl-2-pentanone	3.9	16	Not Detected	Not Detected
Bromoform	3.9	41	Not Detected	Not Detected
tert-Butylbenzene	3.9	22	Not Detected	Not Detected
Naphthalene	20	100	Not Detected	Not Detected
1,2-Dichlorobenzene	0.98	6.0	Not Detected	Not Detected
1,4-Dichlorobenzene	0.98	6.0	Not Detected	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

			Amount
Compound	CAS Number	Match Quality	ppbv
Tetrafluoroethane	BLNK01	NA	9.6

Container Type: 6 Liter Summa Canister

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	99	70-130	
Toluene-d8	98	70-130	
4-Bromofluorobenzene	93	70-130	

SAMPLE NAME: SVP-19-SG-040203

ID#: 0304090-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	d040325 1.91		Date of Collect Date of Analys	
Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.96	2.5	Not Detected	Not Detected
Methylene Chloride	0.96	3.4	Not Detected	Not Detected
1,1-Dichloroethane	0.96	3.9	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.96	3.8	Not Detected	Not Detected
Chloroform	0.96	4.7	Not Detected	Not Detected
1,1,1-Trichloroethane	0.96	5.3	Not Detected	Not Detected
Benzene	0.96	3.1	Not Detected	Not Detected
1,2-Dichloroethane	0.96	3.9	Not Detected	Not Detected
Trichloroethene	0.96	5.2	Not Detected	Not Detected
Tetrachloroethene	0.96	6.6	Not Detected	Not Detected
Chlorobenzene	0.96	4.5	Not Detected	Not Detected
alpha-Chlorotoluene	0.96	5.0	Not Detected	Not Detected
Acetone	3.8	9.2	5.6	13
Carbon Disulfide	3.8	12	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.8	15	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.8	11	11	33
Bromodichloromethane	3.8	26	Not Detected	Not Detected
4-Methyl-2-pentanone	3.8	16	Not Detected	Not Detected
Bromoform	3.8	40	Not Detected	Not Detected
tert-Butylbenzene	3.8	21	Not Detected	Not Detected
Naphthalene	19	100	Not Detected	Not Detected
1,2-Dichlorobenzene	0.96	5.8	Not Detected	Not Detected
1,4-Dichlorobenzene	0.96	5.8	Not Detected	Not Detected
	TENTATIVELY IDEN	TIFIED COMPOUNDS		
Compound		CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane		BLNK01	NA	Not Detected
Container Type: 6 Liter Summa Can	ister			
Surrogates		%Recovery		Method Limits
1,2-Dichloroethane-d4		100		70-130
Toluene-d8		98		70-130
4-Bromofluorobenzene		92		70-130

SAMPLE NAME: SVP-20-SG-040203

ID#: 0304090-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dll. Factor:	d040326 1.96		Date of Collect Date of Analys	그 그 사람들은 사람들이 되었다.
Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.98	2.5	Not Detected	Not Detected
Methylene Chloride	0.98	3.5	Not Detected	Not Detected
1,1-Dichloroethane	0.98	4.0	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.98	3.9	Not Detected	Not Detected
Chloroform	0.98	4.9	Not Detected	Not Detected
1,1,1-Trichloroethane	0.98	5.4	Not Detected	Not Detected
Benzene	0.98	3.2	Not Detected	Not Detected
1,2-Dichloroethane	0.98	4.0	Not Detected	Not Detected
Trichloroethene	0.98	5.4	Not Detected	Not Detected
Tetrachloroethene	0.98	6.8	Not Detected	Not Detected
Chlorobenzene	0.98	4.6	Not Detected	Not Detected
alpha-Chlorotoluene	0.98	5.2	Not Detected	Not Detected
Acetone	3.9	9.5	4.2	10
Carbon Disulfide	3.9	12	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.9	16	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.9	12	5.5	16
Bromodichloromethane	3.9	27	Not Detected	Not Detected
4-Methyl-2-pentanone	3.9	16	Not Detected	Not Detected
Bromoform	3.9	41	Not Detected	Not Detected
tert-Butylbenzene	3.9	22	Not Detected	Not Detected
Naphthalene	20	100	Not Detected	Not Detected
1,2-Dichlorobenzene	0.98	6.0	Not Detected	Not Detected
1,4-Dichlorobenzene	0.98	6.0	Not Detected	Not Detected
	TENTATIVELY IDEN	TIFIED COMPOUNDS		
Compound		CAS Number_	Match Quality	Amount ppbv_
Tetrafluoroethane		BLNK01	NA	Not Detected
Container Type: 6 Liter Summa Can	ister			
Surrogates		%Recovery		Method Limits
-u., ugures				70-130
1.2 Diableraathans 44				
1,2-Dichloroethane-d4 Toluene-d8		98 97		70-130

SAMPLE NAME: SVP-21-SG-040203

ID#: 0304090-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Dil. Factor:	1.96		Date of Analys	iis: 4/4/03
Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.98	2.5	Not Detected	Not Detected
Methylene Chloride	0.98	3.5	Not Detected	Not Detected
1,1-Dichloroethane	0.98	4.0	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.98	3.9	Not Detected	Not Detected
Chloroform	0.98	4.9	Not Detected	Not Detected
1,1,1-Trichloroethane	0.98	5.4	Not Detected	Not Detected
Benzene	0.98	3.2	Not Detected	Not Detected
1,2-Dichloroethane	0.98	4.0	Not Detected	Not Detected
Trichloroethene	0.98	5.4	Not Detected	Not Detected
Tetrachloroethene	0.98	6.8	Not Detected	Not Detected
Chlorobenzene	0.98	4.6	Not Detected	Not Detected
alpha-Chlorotoluene	0.98	5.2	Not Detected	Not Detected
Acetone	3.9	9.5	12	28
Carbon Disulfide	3.9	12	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.9	16	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.9	12	Not Detected	Not Detected
Bromodichloromethane	3.9	27	Not Detected	Not Detected
4-Methyl-2-pentanone	3.9	16	Not Detected	Not Detected
Bromoform	3.9	41	Not Detected	Not Detected
tert-Butylbenzene	3.9	22	Not Detected	Not Detected
Naphthalene	20	100	Not Detected	Not Detected
1,2-Dichlorobenzene	0.98	6.0	Not Detected	Not Detected
1,4-Dichlorobenzene	0.98	6.0	Not Detected	Not Detected
	TENTATIVELY IDEN	TIFIED COMPOUNDS		
Compound		CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane		BLNK01	NA	Not Detected
Container Type: 6 Liter Summa Canis	ster			
Surrogates		%Recovery		Method Limits
1,2-Dichloroethane-d4		99		70-130
Toluene-d8		97		70-130
4-Bromofluorobenzene		94		70-130

SAMPLE NAME: SVP-22-SG-040203

ID#: 0304090-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	d040328 1.91		Date of Collect Date of Analys	
Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.96	2.5	Not Detected	Not Detected
Methylene Chloride	0.96	3.4	Not Detected	Not Detected
1,1-Dichloroethane	0.96	3.9	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.96	3.8	Not Detected	Not Detected
Chloroform	0.96	4.7	Not Detected	Not Detected
1,1,1-Trichloroethane	0.96	5.3	Not Detected	Not Detected
Benzene	0.96	3.1	Not Detected	Not Detected
1,2-Dichloroethane	0.96	3.9	Not Detected	Not Detected
Trichloroethene	0.96	5.2	Not Detected	Not Detected
Tetrachloroethene	0.96	6.6	Not Detected	Not Detected
Chlorobenzene	0.96	4.5	Not Detected	Not Detected
alpha-Chlorotoluene	0.96	5.0	Not Detected	Not Detected
Acetone	3.8	9.2	9.0	22
Carbon Disulfide	3.8	12	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.8	15	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.8	11	8.0	24
Bromodichloromethane	3.8	26	Not Detected	Not Detected
4-Methyl-2-pentanone	3.8	16	Not Detected	Not Detected
Bromoform	3.8	40	Not Detected	Not Detected
tert-Butylbenzene	3.8	21	Not Detected	Not Detected
Naphthalene	19	100	Not Detected	Not Detected
1,2-Dichlorobenzene	0.96	5.8	Not Detected	Not Detected
1,4-Dichlorobenzene	0.96	5.8	Not Detected	Not Detected
	TENTATIVELY IDEN	TIFIED COMPOUNDS		
Compound		CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane		BLNK01	NA	Not Detected
Container Type: 6 Liter Summa Car	nister			
Surrogates		%Recovery		Method Limits
1,2-Dichloroethane-d4		98		70-130
Toluene-d8		98		70-130
4-Bromofluorobenzene		95		70-130

SAMPLE NAME: SVP-23-SG-040203

ID#: 0304090-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

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Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.98	2.5	Not Detected	Not Detected
Methylene Chloride	0.98	3.5	7.6	27
1,1-Dichloroethane	0.98	4.0	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.98	3.9	Not Detected	Not Detected
Chloroform	0.98	4.9	Not Detected	Not Detected
1,1,1-Trichloroethane	0.98	5.4	Not Detected	Not Detected
Benzene	0.98	3.2	Not Detected	Not Detected
1,2-Dichloroethane	0.98	4.0	Not Detected	Not Detected
Trichloroethene	0.98	5.4	Not Detected	Not Detected
Tetrachloroethene	0.98	6.8	Not Detected	Not Detected
Chlorobenzene	0.98	4.6	Not Detected	Not Detected
alpha-Chlorotoluene	0.98	5.2	Not Detected	Not Detected
Acetone	3.9	9.5	19	46
Carbon Disulfide	3.9	12	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.9	16	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.9	12	Not Detected	Not Detected
Bromodichloromethane	3.9	27	Not Detected	Not Detected
4-Methyl-2-pentanone	3.9	16	Not Detected	Not Detected
Bromoform	3.9	41	Not Detected	Not Detected
tert-Butylbenzene	3.9	22	Not Detected	Not Detected
Naphthalene	20	100	Not Detected	Not Detected
1,2-Dichlorobenzene	0.98	6.0	Not Detected	Not Detected
1,4-Dichlorobenzene	0.98	6.0	Not Detected	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	ppbv
Tetrafluoroethane	BLNK01	NA	10

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	93	70-130

SAMPLE NAME: SVP-23-SG-040203 Duplicate

ID#: 0304090-06AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dili Factor:	d040430 1.96		Date of Collect Date of Analys	기 기계 시간 경험 경험 내가 있다.
Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.98	2.5	Not Detected	Not Detected
Methylene Chloride	0.98	3.5	7.3	26
1,1-Dichloroethane	0.98	4.0	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.98	3.9	Not Detected	Not Detected
Chloroform	0.98	4.9	Not Detected	Not Detected
1,1,1-Trichloroethane	0.98	5.4	Not Detected	Not Detected
Benzene	0.98	3.2	Not Detected	Not Detected
1,2-Dichloroethane	0.98	4.0	Not Detected	Not Detected
Trichloroethene	0.98	5.4	Not Detected	Not Detected
Tetrachloroethene	0.98	6.8	Not Detected	Not Detected
Chlorobenzene	0.98	4.6	Not Detected	Not Detected
alpha-Chlorotoluene	0.98	5.2	Not Detected	Not Detected
Acetone	3.9	9.5	18	44
Carbon Disulfide	3.9	12	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.9	16	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.9	12	Not Detected	Not Detected
Bromodichloromethane	3.9	27	Not Detected	Not Detected
4-Methyl-2-pentanone	3.9	16	Not Detected	Not Detected
Brornoform	3.9	41	Not Detected	Not Detected
tert-Butylbenzene	3.9	22	Not Detected	Not Detected
Naphthalene	20	100	Not Detected	Not Detected
1,2-Dichlorobenzene	0.98	6.0	Not Detected	Not Detected
1,4-Dichlorobenzene	0.98	6.0	Not Detected	Not Detected
	TENTATIVELY IDEN	TIFIED COMPOUNDS		
Compound		CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane		BLNK01	NA	8.5
Container Type: 6 Liter Summa Car	ister			
Surrogates		%Recovery		Method Limits
		· · · · · · · · · · · · · · · · · · ·		
1,2-Dichloroethane-d4		98		70-130
Toluene-d8		97		70-130
4-Bromofluorobenzene		92		70-130

SAMPLE NAME: Lab Blank

ID#: 0304090-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	d040307 1.00		Date of Collect Date of Analys	[[하는] 기 보다나는 종주병하다)
Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.50	1.3	Not Detected	Not Detected
Methylene Chloride	0.50	1.8	Not Detected	Not Detected
1,1-Dichloroethane	0.50	2.0	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.50	2.0	Not Detected	Not Detected
Chloroform	0.50	2.5	Not Detected	Not Detected
1,1,1-Trichloroethane	0.50	2.8	Not Detected	Not Detected
Benzene	0.50	1.6	Not Detected	Not Detected
1,2-Dichloroethane	0.50	2.0	Not Detected	Not Detected
Trichloroethene	0.50	2.7	Not Detected	Not Detected
Tetrachloroethene	0.50	3.4	Not Detected	Not Detected
Chlorobenzene	0.50	2.3	Not Detected	Not Detected
alpha-Chlorotoluene	0.50	2.6	Not Detected	Not Detected
Acetone	2.0	4.8	Not Detected	Not Detected
Carbon Disulfide	2.0	6.3	Not Detected	Not Detected
trans-1,2-Dichloroethene	2.0	8.0	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	6.0	Not Detected	Not Detected
Bromodichloromethane	2.0	14	Not Detected	Not Detected
4-Methyl-2-pentanone	2.0	8.3	Not Detected	Not Detected
Brornoform	2.0	21	Not Detected	Not Detected
tert-Butylbenzene	2.0	11	Not Detected	Not Detected
Naphthalene	10	53	Not Detected	Not Detected
1,2-Dichlorobenzene	0.50	3.0	Not Detected	Not Detected
1,4-Dichlorobenzene	0.50	3.0	Not Detected	Not Detected
	TENTATIVELY IDEN	TIFIED COMPOUNDS		
Compound		CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane		BLNK01	NA	Not Detected
Container Type: NA - Not Applicable				
Surrogates		%Recovery		Method Limits
1.2-Dichloroethane-d4		100		70-130
Toluene-d8		98		70-130
4-Bromofluorobenzene		95		70-130

SAMPLE NAME: CCV

ID#: 0304090-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	d040302 Date of Collection: NA	
Dil. Factor:	1.00 Date of Analysis: 4/3/03	

Compound	%Recovery
Vinyl Chloride	87
Methylene Chloride	84
1,1-Dichloroethane	88
cis-1,2-Dichloroethene	88
Chloroform	88
1,1,1-Trichloroethane	91
Benzene	88
1,2-Dichloroethane	88
Trichloroethene	88
Tetrachloroethene	92
Chlorobenzene	90
alpha-Chlorotoluene	85
Acetone	94
Carbon Disulfide	89
trans-1,2-Dichloroethene	89
2-Butanone (Methyl Ethyl Ketone)	92
Bromodichloromethane	96
4-Methyl-2-pentanone	96
Bromoform	99
tert-Butylbenzene	108
Naphthalene	91
1,2-Dichlorobenzene	85
1,4-Dichlorobenzene	87

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	100	70-130	
Toluene-d8	100	70-130	
4-Bromofluorobenzene	97	70-130	

SAMPLE NAME: LCS

ID#: 0304090-09A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:			
	d040303		of Collection: NA
Dil. Factor:	1.00		of Analysis: 4/3/03

Compound	%Recovery
Vinyl Chloride	90
Methylene Chloride	80
1,1-Dichloroethane	75
cis-1,2-Dichloroethene	85
Chloroform	82
I,1,1-Trichloroethane	83
Benzene	90
1,2-Dichloroethane	86
[richloroethene	89
Tetrachloroethene	90
Chlorobenzene	86
alpha-Chlorotoluene	95
Acetone	88
Carbon Disulfide	86
rans-1,2-Dichloroethene	91
2-Butanone (Methyl Ethyl Ketone)	86
Bromodichloromethane	84
I-Methyl-2-pentanone	87
Bromoform	82
ert-Butylbenzene	Not Spiked
Naphthalene	Not Spiked
1,2-Dichlorobenzene	83
I,4-Dichlorobenzene	81

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane	BLNK01	NA	Not Spiked

7.		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	98	70-130



Sample Transportation Notice

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180 BLUE RAVINE ROAD, SUITE 3

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180 BLUE RAVINE ROAD, SUITE B

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Air Toxics Ltd. Introduces the Electronic Report

Thank you for choosing Air Toxics Ltd. To better serve our customers, we are providing your report by e-mail. This document is provided in Portable Document Format which can be viewed with Acrobat Reader by Adobe.

This electronic report includes the following:

- Work order Summary;
- · Laboratory Narrative;
- · Results; and
- Chain of Custody (copy).

AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0304034

Work Order Summary

CLIENT:

Mr. Gary Ritter

BILL TO: Mr. Gary Ritter

TRC Environmental Corporation

TRC Environmental Corporation 5 Waterside Crossing

5 Waterside Crossing Windsor, CT 06095

Windsor, CT 06095

38182 Solutia/Sauget

PHONE:

860-298-6300

P.O. #

FAX:

14B

PROJECT#

DATE RECEIVED: DATE COMPLETED: 4/2/03 4/15/03

LCS

CONTACT: Betty Chu

			RECEIPT
FRACTION #	NAME	TEST	VAC./PRES.
01A	SVP-5-SG-040103	Modified TO-15/TIC	8.5 "Hg
02A	SVP-14-SG-040103	Modified TO-15/TIC	9.5 "Hg
03A	SVP-17-SG-040103	Modified TO-15/TIC	7.5 "Hg
04A	SVP-140-SG-040103	Modified TO-15/TIC	9.0 "Hg
05A	SVP-1-SG-040103	Modified TO-15/TIC	9.5 "Hg
06A	SVP-2-SG-040103	Modified TO-15/TIC	9.5 "Hg
07A	SVP-3-SG-040103	Modified TO-15/TIC	9.0 "Hg
08A	SVP-4-SG-040103	Modified TO-15/TIC	9.0 "Hg
08AA	SVP-4-SG-040103 Duplicate	Modified TO-15/TIC	9.0 "Hg
09A	Background Air Sample-040103-AM	Modified TO-15/TIC	9.0 " Hg
10A	Background Air Sample-040103-PM	Modified TO-15/TIC	7.0 "Hg
11A	Trip Blank 040103	Modified TO-15/TIC	29.0 "Hg
12A	Lab Blank	Modified TO-15/TIC	NA
12B	Lab Blank	Modified TO-15/TIC	NA
12C	Lab Blank	Modified TO-15/TIC	NA
13A	CCV	Modified TO-15/TIC	NA
13B	CCV	Modified TO-15/TIC	NA
13C	CCV	Modified TO-15/TIC	NA
14A	LCS	Modified TO-15/TIC	NA

Continued on next page

NA

Modified TO-15/TIC

AN ENVIRONMENTAL ANALYTICAL LABORATORY

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CLIENT:

Mr. Gary Ritter

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Mr. Gary Ritter

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5 Waterside Crossing Windsor, CT 06095

Windsor, CT 06095

PHONE:

860-298-6300

P.O. #

FAX:

4/2/03

PROJECT#

38182 Solutia/Sauget

DATE RECEIVED: DATE COMPLETED:

4/15/03

CONTACT:

Betty Chu

FRACTION#

NAME

TEST

RECEIPT VAC./PRES.

14C

LCS

Modified TO-15/TIC

NA

Sinda d. Fruman 04/15/03 CERTIFIED BY: DATE:

Laboratory Director

Certification numbers: AR DEQ, CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004 NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/02, Expiration date: 06/30/03

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE Modified TO-15

TRC Environmental Corporation Workorder# 0304034

Eleven 6 Liter Summa Canister samples were received on April 02, 2003. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.5 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis. See the data sheets for the reporting limits for each compound.

Method modifications taken to run these samples include:

Requirement	TO-15	ATL Modifications
BFB acceptance criteria	CLP protocol	SW-846 protocol
Concentration of IS spike	10 ppbv	25 ppbv when 0.5/2.0 ppbv is used for the reporting limt
Dilutions for initial calibration	Dynamic dilutions or static using canisters	Syringe dilutions
IS recoveries	Within 40% of mean over ICAL for blanks, and w/in 40% of daily CCV for samples.	Within 40% of CCV recoveries for blank and samples.
Daily CCV	30% Difference	30% Difference with two allowed out up to 40%.
Primary ions for Quantification	Freon 114: 85, Carbon Tetrachloride: 117, Trichloroethene: 130, Ethyl Benzene, m,p- and o-Xylene: 91	Freon 114: 135, Carbon Tetrachloride: 119, Trichloroethene: 95, Ethyl Benzene, m,p- and o-Xylene: 106

Receiving Notes

The chain of custody information for sample SVP-2-SG-040103 did not match the entry on the sample tag. The discrepancy was noted in the Login email and the information on the chain of custody was used to process and report the sample.

Analytical Notes

Specific analytes that are requested by the client to be reported as tentatively identified compounds (TICs) are determined by searching for each compound's characteristic spectra. If no chromatographic peak displaying the compound specific spectra exists, then the TIC is reported as not detected. Please note that the laboratory has not evaluated the stability of any heretofore tentatively identified compound in the vapor phase or for efficiency of recovery through the analytical system.

The following compound, alpha-Chlorotoluene, indicated low bias (less than 70% expected recovery) in the daily CCV analyzed on MSD-B on 04/02/03. Associated non-detects in samples SVP-14-SG-040103, SVP-140-SG-040103, Background Air Sample-040103-AM, Background Air Sample-040103-PM and Trip Blank 040103 were flagged to indicate estimated results with low bias.

The reported CCV for each daily batch may be derived from more than one individual analytical file due to the client's request for non-standard compounds.

By specific client request, Tetrafluoroethane was reported as a tentatively identified compound (TIC) to assist in evaluation of the client sampling system.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
 - J Estimated value.
 - E Exceeds instrument calibration range.
 - S Saturated Peak.
 - Q Exceeds quality control limits.
 - U Compound analyzed for but not detected above the reporting limit.
 - UJ- Non-detected compound associated with low bias in the CCV
 - N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

SAMPLE NAME: SVP-5-SG-040103

ID#: 0304034-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

THE RESERVE AS A SECOND CONTRACT OF SECOND PROPERTY AND A SECOND PROPERTY OF THE PROPERTY OF T	S. S. J. S.	By A. M. S. Collection and Brillian a. a.	1 25 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	is: 4/2/03
Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.94	2.4	Not Detected	Not Detected
Methylene Chloride	0.94	3.3	Not Detected	Not Detected
1,1-Dichloroethane	0.94	3.8	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.94	3.8	Not Detected	Not Detected
Chloroform	0.94	4.6	Not Detected	Not Detected
1,1,1-Trichloroethane	0.94	5.2	Not Detected	Not Detected
Benzene	0.94	3.0	Not Detected	Not Detected
1,2-Dichloroethane	0.94	3.8	Not Detected	Not Detected
Trichloroethene	0.94	5.1	Not Detected	Not Detected
Tetrachloroethene	0.94	6.4	Not Detected	Not Detected
Chlorobenzene	0.94	4.4	Not Detected	Not Detected
alpha-Chlorotoluene	0.94	4.9	Not Detected	Not Detected
Acetone	3.7	9.0	Not Detected	Not Detected
Carbon Disulfide	3.7	12	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.7	15	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.7	11	Not Detected	Not Detected
Bromodichloromethane	3.7	25	Not Detected	Not Detected
4-Methyl-2-pentanone	3.7	16	Not Detected	Not Detected
Bromoform	3.7	39	Not Detected	Not Detected
tert-Butylbenzene	3.7	21	Not Detected	Not Detected
Naphthalene	19	100	Not Detected	Not Detected
1,2-Dichlorobenzene	0.94	5.7	Not Detected	Not Detected
1,4-Dichlorobenzene	0.94	5.7	Not Detected	Not Detected
	TENTATIVELY IDEN	TIFIED COMPOUNDS		
Compound		CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane		BLNK01	NA	Not Detected
Container Type: 6 Liter Summa Canis	ster			
Surrogates		%Recovery		Method Limits
1,2-Dichloroethane-d4	ALANDA DE SANTA DE LA CALLANDA DE L	99		70-130
r,z-Dichloroethane-d4 Toluene-d8		98		70-130 70-130
i oluene-uo		94		70-130

SAMPLE NAME: SVP-14-SG-040103

ID#: 0304034-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	b040224	Date of Collection: 4/1/0	
Dil. Factor:	784	Date of Analysis: 4/3/03	

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	390	1000	Not Detected	Not Detected
Methylene Chloride	390	1400	Not Detected	Not Detected
1,1-Dichloroethane	390	1600	Not Detected	Not Detected
cis-1,2-Dichloroethene	390	1600	Not Detected	Not Detected
Chloroform	390	1900	Not Detected	Not Detected
1,1,1-Trichloroethane	390	2200	Not Detected	Not Detected
Benzene	390	1300	1100	3700
1,2-Dichloroethane	390	1600	Not Detected	Not Detected
Trichloroethene	390	2100	Not Detected	Not Detected
Tetrachloroethene	390	2700	Not Detected	Not Detected
Chlorobenzene	390	1800	2200	10000
alpha-Chlorotoluene	390	2100	Not Detected U J	Not Detected U J
Acetone	1600	3800	Not Detected	Not Detected
Carbon Disulfide	1600	5000	Not Detected	Not Detected
trans-1,2-Dichloroethene	1600	6300	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1600	4700	Not Detected	Not Detected
Bromodichloromethane	1600	11000	Not Detected	Not Detected
4-Methyl-2-pentanone	1600	6500	72000	300000
Bromoform	1600	16000	Not Detected	Not Detected
tert-Butylbenzene	1600	8700	Not Detected	Not Detected
Naphthalene	7800	42000	Not Detected	Not Detected
1,2-Dichlorobenzene	390	2400	Not Detected	Not Detected
1,4-Dichlorobenzene	390	2400	Not Detected	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

			Amount	
Compound	CAS Number	Match Quality	ppbv	
Tetrafluoroethane	BLNK01	NA	Not Detected	

UJ = Non-detected compound associated with low bias in the CCV

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	85	70-130

SAMPLE NAME: SVP-17-SG-040103

ID#: 0304034-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	d040322 1.79		Date of Collec Date of Analys	
Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.90	2.3	Not Detected	Not Detected
Methylene Chloride	0.90	3.2	Not Detected	Not Detected
1,1-Dichloroethane	0.90	3.7	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.90	3.6	Not Detected	Not Detected
Chloroform	0.90	4.4	Not Detected	Not Detected
1,1,1-Trichloroethane	0.90	5.0	Not Detected	Not Detected
Benzene	0.90	2.9	3.5	11
1,2-Dichloroethane	0.90	3.7	Not Detected	Not Detected
Trichloroethene	0.90	4.9	Not Detected	Not Detected
Tetrachloroethene	0.90	6.2	Not Detected	Not Detected
Chlorobenzene	0.90	4.2	Not Detected	Not Detected
alpha-Chlorotoluene	0.90	4.7	Not Detected	Not Detected
Acetone	3.6	8.6	11	26
Carbon Disulfide	3.6	. 11	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.6	14	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.6	11	Not Detected	Not Detected
Bromodichloromethane	3.6	24	Not Detected	Not Detected
4-Methyl-2-pentanone	3.6	15	Not Detected	Not Detected
Bromoform	3.6	38	Not Detected	Not Detected
tert-Butylbenzene	3.6	20	Not Detected	Not Detected
Naphthalene	18	95	Not Detected	Not Detected
1,2-Dichlorobenzene	0.90	5.5	Not Detected	Not Detected
1,4-Dichlorobenzene	0.90	5.5	Not Detected	Not Detected
	TENTATIVELY IDEN	TIFIED COMPOUNDS		
Compound		CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane		BLNK01	NA	150
Container Type: 6 Liter Summa Ca	nister			
Surrogates		%Recovery_		Method Limits
1,2-Dichloroethane-d4		101		70-130
Toluene-d8		97		70-130

94

70-130

4-Bromofluorobenzene

SAMPLE NAME: SVP-140-SG-040103

ID#: 0304034-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 5040225	Date of Collection: 4/1/03
Dil. Factor: 764	Date of Analysis: 4/3/03

Compound	Rɒt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	380	990	Not Detected	Not Detected
Methylene Chloride	380	1300	Not Detected	Not Detected
1,1-Dichloroethane	380	1600	Not Detected	Not Detected
cis-1,2-Dichloroethene	380	1500	Not Detected	Not Detected
Chloroform	380	1900	Not Detected	Not Detected
1,1,1-Trichloroethane	380	2100	Not Detected	Not Detected
Benzene	380	1200	1100	3700
1,2-Dichloroethane	380	1600	Not Detected	Not Detected
Trichloroethene	380	2100	Not Detected	Not Detected
Tetrachloroethene	380	2600	Not Detected	Not Detected
Chlorobenzene	380	1800	2300	11000
alpha-Chlorotoluene	380	2000	Not Detected U J	Not Detected U J
Acetone	1500	3700	Not Detected	Not Detected
Carbon Disulfide	1500	4800	Not Detected	Not Detected
trans-1,2-Dichloroethene	1500	6200	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1500	4600	Not Detected	Not Detected
Brornodichloromethane	1500	10000	Not Detected	Not Detected
4-Methyl-2-pentanone	1500	6400	75000	310000
Bromoform	1500	16000	Not Detected	Not Detected
tert-Butylbenzene	1500	8500	Not Detected	Not Detected
Naphthalene	7600	41000	Not Detected	Not Detected
1,2-Dichlorobenzene	380	2300	Not Detected	Not Detected
1,4-Dichlorobenzene	380	2300	Not Detected	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

			Amount
Compound	CAS Number	Match Quality	ppbv
Tetrafluoroethane	BLNK01	NA	Not Detected

UJ = Non-detected compound associated with low bias in the CCV

		metnod
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	86	70-130

SAMPLE NAME: SVP-1-SG-040103

ID#: 0304034-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	d040323 1.96		Date of Collect Date of Analys	
Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.98	2.5	Not Detected	Not Detected
Methylene Chloride	0.98	3.5	Not Detected	Not Detected
1,1-Dichloroethane	0.98	4.0	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.98	3.9	Not Detected	Not Detected
Chloroform	0.98	4.9	Not Detected	Not Detected
1,1,1-Trichloroethane	0.98	5.4	Not Detected	Not Detected
Benzene	0.98	3.2	Not Detected	Not Detected
1,2-Dichloroethane	0.98	4.0	Not Detected	Not Detected
Trichloroethene	0.98	5.4	Not Detected	Not Detected
Tetrachloroethene	0.98	6.8	Not Detected	Not Detected
Chlorobenzene	0.98	4.6	Not Detected	Not Detected
alpha-Chlorotoluene	0.98	5.2	Not Detected	Not Detected
Acetone	3.9	9.5	7.6	18
Carbon Disulfide	3.9	12	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.9	16	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.9	12	Not Detected	Not Detected
Bromodichloromethane	3.9	27	Not Detected	Not Detected
4-Methyl-2-pentanone	3.9	16	Not Detected	Not Detected
Bromoform	3.9	41	Not Detected	Not Detected
tert-Butylbenzene	3.9	22	Not Detected	Not Detected
Naphthalene	20	100	Not Detected	Not Detected
1,2-Dichlorobenzene	0.98	6.0	Not Detected	Not Detected
1,4-Dichlorobenzene	0.98	6.0	Not Detected	Not Detected
	TENTATIVELY IDEN	TIFIED COMPOUNDS		
Compound		CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane		BLNK01	NA	Not Detected
Container Type: 6 Liter Summa Can	ister			
Surrogates		%Recovery		Method Limits
				70-130
1,2-Dichloroethane-d4		99		
Toluene-d8		97		70-130
4-Bromofluorobenzene		94		70-130

SAMPLE NAME: SVP-2-SG-040103

ID#: 0304034-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	d040220 1.96		Date of Collect Date of Analys	지점하다 중심하다요요~
Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.98	2.5	Not Detected	Not Detected
Methylene Chloride	0.98	3.5	Not Detected	Not Detected
1,1-Dichloroethane	0.98	4.0	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.98	3.9	Not Detected	Not Detected
Chloroform	0.98	4.9	Not Detected	Not Detected
1,1,1-Trichloroethane	0.98	5.4	Not Detected	Not Detected
Benzene	0.98	3.2	1.0	3. 3
1,2-Dichloroethane	0.98	4.0	Not Detected	Not Detected
Trichloroethene	0.98	5.4	Not Detected	Not Detected
Tetrachloroethene	0.98	6.8	Not Detected	Not Detected
Chlorobenzene	0.98	4.6	Not Detected	Not Detected
alpha-Chiorotoluene	0.98	5.2	Not Detected	Not Detected
Acetone	3.9	9.5	Not Detected	Not Detected
Carbon Disulfide	3.9	12	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.9	16	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.9	12	Not Detected	Not Detected
Bromodichloromethane	3.9	27	Not Detected	Not Detected
4-Methyl-2-pentanone	3.9	16	Not Detected	Not Detected
Bromoform	3.9	41	Not Detected	Not Detected
tert-Butylbenzene	3.9	22	Not Detected	Not Detected
Naphthalene	20	100	Not Detected	Not Detected
1,2-Dichlorobenzene	0.98	6.0	Not Detected	Not Detected
1,4-Dichlorobenzene	0.98	6.0	Not Detected	Not Detected
	TENTATIVELY IDEN	TIFIED COMPOUNDS	3	
Compound		CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane		BLNK01	NA	Not Detected

%Recovery

100

98

92

Method

Limits

70-130

70-130

70-130

Container Type: 6 Liter Summa Canister

Surrogates

Toluene-d8

1,2-Dichloroethane-d4

4-Bromofluorobenzene

SAMPLE NAME: SVP-3-SG-040103

ID#: 0304034-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

* 10 1 180			Alexander Company and the Comp	
Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.96	2.5	Not Detected	Not Detected
Methylene Chloride	0.96	3.4	Not Detected	Not Detected
1,1-Dichloroethane	0.96	3.9	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.96	3.8	Not Detected	Not Detected
Chloroform	0.96	4.7	Not Detected	Not Detected
1,1,1-Trichloroethane	0.96	5.3	Not Detected	Not Detected
Benzene	0.96	3.1	Not Detected	Not Detected
1,2-Dichloroethane	0.96	3.9	Not Detected	Not Detected
Trichloroethene	0.96	5.2	Not Detected	Not Detected
Tetrachloroethene	0.96	6.6	1.9	13
Chlorobenzene	0.96	4.5	Not Detected	Not Detected
alpha-Chlorotoluene	0.96	5.0	Not Detected	Not Detected
Acetone	3.8	9.2	Not Detected	Not Detected
Carbon Disulfide	3.8	12	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.8	15	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.8	11	Not Detected	Not Detected
Bromodichloromethane	3.8	26	Not Detected	Not Detected
4-Methyl-2-pentanone	3.8	16	Not Detected	Not Detected
Bromoform	3.8	40	Not Detected	Not Detected
tert-Butylbenzene	3.8	21	Not Detected	Not Detected
Naphthalene	19	100	Not Detected	Not Detected
1,2-Dichlorobenzene	0.96	5.8	Not Detected	Not Detected
1,4-Dichlorobenzene	0.96	5.8	Not Detected	Not Detected
	TENTATIVELY IDEN	TIFIED COMPOUNDS		
Compound		CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane		BLNK01	NA	2100
Container Type: 6 Liter Summa Canis	ster			
Surrogates		%Recovery		Method Limits
1,2-Dichloroethane-d4		100		70-130
Toluene-d8		98		70-130
4-Bromofluorobenzene		93		70-130

SAMPLE NAME: SVP-4-SG-040103

ID#: 0304034-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dif. Factor:	d040222 1.91	Date of Collection Date of Analysis:		하시기를 보면 하게 하셨습니다.
Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.96	2.5	Not Detected	Not Detected
Methylene Chloride	0.96	3.4	Not Detected	Not Detected
1,1-Dichloroethane	0.96	3.9	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.96	3.8	Not Detected	Not Detected
Chloroform	0.96	4.7	Not Detected	Not Detected
1,1,1-Trichloroethane	0.96	5.3	Not Detected	Not Detected
Benzene	0.96	3.1	Not Detected	Not Detected
1,2-Dichloroethane	0.96	3.9	Not Detected	Not Detected
Trichloroethene	0.96	5.2	Not Detected	Not Detected
Tetrachloroethene	0.96	6.6	Not Detected	Not Detected
Chlorobenzene	0.96	4.5	Not Detected	Not Detected
alpha-Chlorotoluene	0.96	5.0	Not Detected	Not Detected
Acetone	3.8	9.2	Not Detected	Not Detected
Carbon Disulfide	3.8	12	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.8	15	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.8	11	Not Detected	Not Detected
Bromodichloromethane	3.8	26	Not Detected	Not Detected
4-Methyl-2-pentanone	3.8	16	Not Detected	Not Detected
Bromoform	3.8	40	Not Detected	Not Detected
tert-Butylbenzene	3.8	21	Not Detected	Not Detected
Naphthalene	19	100	Not Detected	Not Detected
1,2-Dichlorobenzene	0.96	5.8	Not Detected	Not Detected
1,4-Dichlorobenzene	0.96	5.8	Not Detected	Not Detected
	TENTATIVELY IDEN	TIFIED COMPOUNDS	i	
Compound		CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane		BLNK01	NA	Not Detected
Container Type: 6 Liter Summa Cani	ster			
Surrogates		%Recovery		Method Limits
1.2-Dichloroethane-d4		98		70-130
Toluene-d8		98		70-130
. =		0.4		70.400

4-Bromofluorobenzene

91

70-130

SAMPLE NAME: SVP-4-SG-040103 Duplicate

ID#: 0304034-08AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	d040223	
		Date of Collection: 4/1/03
Dil. Factor:		Date of Analysis: 4/3/03

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.96	2.5	Not Detected	Not Detected
Methylene Chloride	0.96	3.4	Not Detected	Not Detected
1,1-Dichloroethane	0.96	3.9	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.96	3.8	Not Detected	Not Detected
Chloroform	0.96	4.7	Not Detected	Not Detected
1,1,1-Trichloroethane	0.96	5.3	Not Detected	Not Detected
Benzene	0.96	3.1	Not Detected	Not Detected
1,2-Dichloroethane	0.96	3.9	Not Detected	Not Detected
Trichloroethene	0.96	5.2	Not Detected	Not Detected
Tetrachloroethene	0.96	6.6	Not Detected	Not Detected
Chlorobenzene	0.96	4.5	Not Detected	Not Detected
alpha-Chlorotoluene	0.96	5.0	Not Detected	Not Detected
Acetone	3.8	9.2	Not Detected	Not Detected
Carbon Disulfide	3.8	12	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.8	15	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.8	11	Not Detected	Not Detected
Bromodichloromethane	3.8	26	Not Detected	Not Detected
4-Methyl-2-pentanone	3.8	16	Not Detected	Not Detected
Bromoform	3.8	40	Not Detected	Not Detected
tert-Butylbenzene	3.8	21	Not Detected	Not Detected
Naphthalene	19	100	Not Detected	Not Detected
1,2-Dichlorobenzene	0.96	5.8	Not Detected	Not Detected
1,4-Dichlorobenzene	0.96	5.8	Not Detected	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane	BLNK01	NA	Not Detected

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	91	70-130

SAMPLE NAME: Background Air Sample-040103-AM

ID#: 0304034-09A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.96	2.5	Not Detected	Not Detected
Methylene Chloride	0.96	3.4	Not Detected	Not Detected
1,1-Dichloroethane	0.96	3.9	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.96	3.8	Not Detected	Not Detected
Chloroform	0.96	4.7	Not Detected	Not Detected
1,1,1-Trichloroethane	0.96	5.3	Not Detected	Not Detected
Benzene	0.96	3.1	Not Detected	Not Detected
1,2-Dichloroethane	0.96	3.9	Not Detected	Not Detected
Trichloroethene	0.96	5.2	Not Detected	Not Detected
Tetrachloroethene	0.96	6.6	Not Detected	Not Detected
Chlorobenzene	0.96	4.5	2.6	12
alpha-Chlorotoluene	0.96	5.0	Not Detected U J	Not Detected U J
Acetone	3.8	9.2	4.7	11
Carbon Disulfide	3.8	12	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.8	15	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.8	11	Not Detected	Not Detected
Bromodichloromethane	3.8	26	Not Detected	Not Detected
4-Methyl-2-pentanone	3.8	16	Not Detected	Not Detected
Bromoform	3.8	40	Not Detected	Not Detected
tert-Butylbenzene	3.8	21	Not Detected	Not Detected
Naphthalene	19	100	Not Detected	Not Detected
1,2-Dichlorobenzene	0.96	5.8	Not Detected	Not Detected
1,4-Dichlorobenzene	0.96	5.8	1.5	8.9

TENTATIVELY IDENTIFIED COMPOUNDS

			Amount	
Compound	CAS Number	Match Quality	ppbv	_
Tetrafluoroethane	BLNK01	NA	Not Detected	

UJ = Non-detected compound associated with low bias in the CCV

· · · · · · · · · · · · · · · · · · ·		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	84	70-130

SAMPLE NAME: Background Air Sample-040103-PM

ID#: 0304034-10A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: b040219	Date of Collection: 4/1/03
Dil. Factor:	Date of Analysis: 4/3/03

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.88	2.3	Not Detected	Not Detected
Methylene Chloride	0.88	3.1	Not Detected	Not Detected
1,1-Dichloroethane	0.88	3.6	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.88	3.5	Not Detected	Not Detected
Chloroform	0.88	4.3	Not Detected	Not Detected
1,1,1-Trichloroethane	0.88	4.8	Not Detected	Not Detected
Benzene	0.88	2.8	Not Detected	Not Detected
1,2-Dichloroethane	0.88	3.6	Not Detected	Not Detected
Trichloroethene	0.88	4.8	Not Detected	Not Detected
Tetrachloroethene	0.88	6.0	Not Detected	Not Detected
Chlorobenzene	0.88	4.1	Not Detected	Not Detected
alpha-Chlorotoluene	0.88	4.6	Not Detected U J	Not Detected U J
Acetone	3.5	8.4	4.1	10
Carbon Disulfide	3.5	11	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.5	14	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.5	10	Not Detected	Not Detected
Bromodichloromethane	3.5	24	Not Detected	Not Detected
4-Methyl-2-pentanone	3.5	14	Not Detected	Not Detected
Bromoform	3.5	37	Not Detected	Not Detected
tert-Butylbenzene	3.5	20	Not Detected	Not Detected
Naphthalene	18	93	Not Detected	Not Detected
1,2-Dichlorobenzene	0.88	5.3	Not Detected	Not Detected
1,4-Dichlorobenzene	0.88	5.3	Not Detected	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

			Amount	
Compound	CAS Number	Match Quality	ppbv	_
Tetrafluoroethane	BLNK01	NA	Not Detected	

UJ = Non-detected compound associated with low bias in the CCV

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	84	70-130

SAMPLE NAME: Trip Blank 040103

ID#: 0304034-11A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	b040220	Date of Collection: 4/1/03
Dil. Factor:	1.00	Date of Analysis: 4/3/03

Compound	Rɒt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.50	1.3	Not Detected	Not Detected
Methylene Chloride	0.50	1.8	Not Detected	Not Detected
1,1-Dichloroethane	0.50	2.0	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.50	2.0	Not Detected	Not Detected
Chloroform	0.50	2.5	Not Detected	Not Detected
1,1,1-Trichloroethane	0.50	2.8	Not Detected	Not Detected
Benzene	0.50	1.6	Not Detected	Not Detected
1,2-Dichloroethane	0.50	2.0	Not Detected	Not Detected
Trichloroethene	0.50	2.7	Not Detected	Not Detected
Tetrachloroethene	0.50	3.4	Not Detected	Not Detected
Chlorobenzene	0.50	2.3	Not Detected	Not Detected
alpha-Chlorotoluene	0.50	2.6	Not Detected U J	Not Detected U J
Acetone	2.0	4.8	Not Detected	Not Detected
Carbon Disulfide	2.0	6.3	Not Detected	Not Detected
trans-1,2-Dichloroethene	2.0	8.0	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	6.0	Not Detected	Not Detected
Brornodichloromethane	2.0	14	Not Detected	Not Detected
4-Methyl-2-pentanone	2.0	8.3	Not Detected	Not Detected
Bromoform	2.0	21	Not Detected	Not Detected
tert-Butylbenzene	2.0	11	Not Detected	Not Detected
Naphthalene	10	53	Not Detected	Not Detected
1,2-Dichlorobenzene	0.50	3.0	Not Detected	Not Detected
1,4-Dichlorobenzene	0.50	3.0	Not Detected	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

· -	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Amount
Compound	CAS Number	Match Quality	ppbv
Tetrafluoroethane	BLNK01	NA	Not Detected

UJ = Non-detected compound associated with low bias in the CCV

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	112	70-130	
Toluene-d8	97	70-130	
4-Bromofluorobenzene	83	70-130	

SAMPLE NAME: Lab Blank

ID#: 0304034-12A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	d040207 1.00		Date of Collection: NA Date of Analysis: 4/2/03	
Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.50	1.3	Not Detected	Not Detected
Methylene Chloride	0.50	1.8	Not Detected	Not Detected
1,1-Dichloroethane	0.50	2.0	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.50	2.0	Not Detected	Not Detected
Chloroform	0.50	2.5	Not Detected	Not Detected
1,1,1-Trichloroethane	0.50	2.8	Not Detected	Not Detected
Benzene	0.50	1.6	Not Detected	Not Detected
1,2-Dichloroethane	0.50	2.0	Not Detected	Not Detected
Trichloroethene	0.50	2.7	Not Detected	Not Detected
Tetrachloroethene	0.50	3.4	Not Detected	Not Detected
Chlorobenzene	0.50	2.3	Not Detected	Not Detected
alpha-Chlorotoluene	0.50	2.6	Not Detected	Not Detected
Acetone	2.0	4.8	Not Detected	Not Detected
Carbon Disulfide	2.0	6.3	Not Detected	Not Detected
trans-1,2-Dichloroethene	2.0	8.0	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	6.0	Not Detected	Not Detected
Bromodichloromethane	2.0	14	Not Detected	Not Detected
4-Methyl-2-pentanone	2.0	8.3	Not Detected	Not Detected
Bromoform	2.0	21	Not Detected	Not Detected
tert-Butylbenzene	2.0	11	Not Detected	Not Detected
Naphthalene	10	53	Not Detected	Not Detected
1,2-Dichlorobenzene	0.50	3.0	Not Detected	Not Detected
1,4-Dichlorobenzene	0.50	3.0	Not Detected	Not Detected
	TENTATIVELY IDEN	TIFIED COMPOUNDS		
Compound		CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane		BLNK01	NA	Not Detected
Container Type: NA - Not Applicable				
Surrogates		%Recovery		Method Limits
1,2-Dichloroethane-d4		98		70-130
Toluene-d8		98		70-130
4-Bromofluorobenzene		92		70-130

SAMPLE NAME: Lab Blank ID#: 0304034-12B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.50	1.3	Not Detected	Not Detected
Methylene Chloride	0.50	1.8	Not Detected	Not Detected
1,1-Dichloroethane	0.50	2.0	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.50	2.0	Not Detected	Not Detected
Chloroform	0.50	2.5	Not Detected	Not Detected
1,1,1-Trichloroethane	0.50	2.8	Not Detected	Not Detected
Benzene	0.50	1.6	Not Detected	Not Detected
1,2-Dichloroethane	0.50	2.0	Not Detected	Not Detected
Trichloroethene	0.50	2.7	Not Detected	Not Detected
Tetrachloroethene	0.50	3.4	Not Detected	Not Detected
Chlorobenzene	0.50	2.3	Not Detected	Not Detected
alpha-Chlorotoluene	0.50	2.6	Not Detected U J	Not Detected U J
Acetone	2.0	4.8	Not Detected	Not Detected
Carbon Disulfide	2.0	6.3	Not Detected	Not Detected
trans-1,2-Dichloroethene	2.0	8.0	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	6.0	Not Detected	Not Detected
Bromodichloromethane	2.0	14	Not Detected	Not Detected
4-Methyl-2-pentanone	2.0	8.3	Not Detected	Not Detected
Bromoform	2.0	21	Not Detected	Not Detected
tert-Butylbenzene	2.0	11	Not Detected	Not Detected
Naphthalene	10	53	Not Detected	Not Detected
1,2-Dichlorobenzene	0.50	3.0	Not Detected	Not Detected
1,4-Dichlorobenzene	0.50	3.0	Not Detected	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

			Amount
Compound	CAS Number	Match Quality	ppbv
Tetrafluoroethane	BLNK01	NA	Not Detected

UJ = Non-detected compound associated with low bias in the CCV

·		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	84	70-130

SAMPLE NAME: Lab Blank

ID#: 0304034-12C

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Date of Collection: NA

Date of Analysis: 4/3/03

d040307

1.00

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.50	1.3	Not Detected	Not Detected
Methylene Chloride	0.50	1.8	Not Detected	Not Detected
1,1-Dichloroethane	0.50	2.0	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.50	2.0	Not Detected	Not Detected
Chloroform	0.50	2.5	Not Detected	Not Detected
1,1,1-Trichloroethane	0.50	2.8	Not Detected	Not Detected
Benzene	0.50	1.6	Not Detected	Not Detected
1,2-Dichloroethane	0.50	2.0	Not Detected	Not Detected
Trichloroethene	0.50	2.7	Not Detected	Not Detected
Tetrachloroethene	0.50	3.4	Not Detected	Not Detected
Chlorobenzene	0.50	2.3	Not Detected	Not Detected
alpha-Chlorotoluene	0.50	2.6	Not Detected	Not Detected
Acetone	2.0	4.8	Not Detected	Not Detected
Carbon Disulfide	2.0	6.3	Not Detected	Not Detected
trans-1,2-Dichloroethene	2.0	8.0	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	6.0	Not Detected	Not Detected
Bromodichloromethane	2.0	14	Not Detected	Not Detected
4-Methyl-2-pentanone	2.0	8.3	Not Detected	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

2.0

2.0

10

0.50

0.50

Compound	CAS Number	Match Quality	ppbv
Tetrafluoroethane	BLNK01	NA	Not Detected

21

11

53

3.0

3.0

Not Detected

Container Type: NA - Not Applicable

File Name:

Dil. Factor:

Bromoform

Naphthalene

tert-Butylbenzene

1,2-Dichlorobenzene

1,4-Dichlorobenzene

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	95	70-130

SAMPLE NAME: CCV

ID#: 0304034-13A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: b040204 Date of Collection: NA	
Dil. Factor: Date of Analysis: 4/2/03	
[1] "我的老女女女的,我们还是我们还是我们的人,我们就没有一个人的人,我们就会没有一个人的人,我们就会会会会会会会会。""我们就是这个人,我们就会会会会会会	- N. A. C.

Compound	%Recovery
Vinyl Chloride	110
Methylene Chloride	111
1,1-Dichloroethane	117
cis-1,2-Dichloroethene	119
Chloroform	114
1,1,1-Trichloroethane	114
Benzene	109
1,2-Dichloroethane	123
Trichloroethene	115
Tetrachloroethene	121
Chlorobenzene	108
alpha-Chlorotoluene	62 Q
Acetone	95
Carbon Disulfide	82
rans-1,2-Dichloroethene	84
2-Butanone (Methyl Ethyl Ketone)	103
Bromodichloromethane	91
1-Methyl-2-pentanone	106
Bromoform	86
ert-Butylbenzene	81
Naphthalene	82
1,2-Dichlorobenzene	73
1,4-Dichlorobenzene	76

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	85	70-130

SAMPLE NAME: CCV ID#: 0304034-13B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: d040202 Date of Collection: NA	
File Name: d040202 Date of Collection: NA	245 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
File Name: Date of Collection: NA	医二十二乙二二十二烷二十二二烷二甲二烷二甲二烷二甲二烷二烷二烷二烷二烷二烷二烷二烷二烷二烷
riie Name: Date of Collection: NA	* _ !!
	.OURCHON' NA
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	"大大"一大大""""""""""""""""""""""""""""""""""""""
Dil. Factor: 1.00 Date of Analysis: 4/2/03	analyele Arrilla
P with university of the control of	TIBLITAIS, TIZIVA
- 1 - 25 : 그렇게 나타는 그렇게 하는 10 : 25 : 10 : 10 : 10 : 10 : 10 : 10 : 10 : 1	

Compound	%Recovery
Vinyl Chloride	82
Methylene Chloride	80
1,1-Dichloroethane	83
cis-1,2-Dichloroethene	83
Chloroform	84
1,1,1-Trichloroethane	86
Benzene	82
1,2-Dichloroethane	80
Trichloroethene	82
Tetrachloroethene	80
Chlorobenzene	82
alpha-Chlorotoluene	94
Acetone	92
Carbon Disulfide	88
rans-1,2-Dichloroethene	86
2-Butanone (Methyl Ethyl Ketone)	90
Bromodichloromethane	93
4-Methyl-2-pentanone	92
Bromoform	97
ert-Butylbenzene	117
Naphthalene	95
1,2-Dichlorobenzene	86
1,4-Dichlorobenzene	90

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	102	70-130	
Toluene-d8	101	70-130	
4-Bromofluorobenzene	104	70-130	

SAMPLE NAME: CCV

ID#: 0304034-13C

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Compound	%Recovery
Vinyl Chloride	87
Methylene Chloride	84
1,1-Dichloroethane	88
cis-1,2-Dichloroethene	88
Chloroform	88
1,1,1-Trichloroethane	91
Benzene	88
1,2-Dichloroethane	88
Trichloroethene	88
Tetrachloroethene	92
Chlorobenzene	90
alpha-Chlorotoluene	85
Acetone	94
Carbon Disulfide	89
trans-1,2-Dichloroethene	89
2-Butanone (Methyl Ethyl Ketone)	92
Bromodichloromethane	96
4-Methyl-2-pentanone	96
Bromoform	99
tert-Butylbenzene	108
Naphthalene	91
1,2-Dichlorobenzene	85
1,4-Dichlorobenzene	87

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	100	70-130	
Toluene-d8	100	70-130	
4-Bromofluorobenzene	97	70-130	

SAMPLE NAME: LCS

ID#: 0304034-14A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

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Compound	%Recovery
Vinyl Chloride	120
Methylene Chloride	110
1,1-Dichloroethane	105
is-1,2-Dichloroethene	119
Chloroform	111
,1,1-Trichloroethane	110
enzene	118
,2-Dichloroethane	127
richloroethene	123
etrachloroethene	131 Q
hlorobenzene	110
lpha-Chlorotoluene	76
cetone	83
Carbon Disulfide	78
rans-1,2-Dichloroethene	84
-Butanone (Methyl Ethyl Ketone)	91
romodichloromethane	80
-Methyl-2-pentanone	92
romoform	64
ert-Butylbenzene	Not Spiked
aphthalene	Not Spiked
,2-Dichlorobenzene	71
,4-Dichlorobenzene	70

Q = Exceeds Quality Control limits.

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	106	70-130	
Toluene-d8	10 1	70-130	
4-Bromofluorobenzene	85	70-130	

SAMPLE NAME: LCS

1D#: 0304034-14B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

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File Name: d040203 Date of Collection:	NA
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Compound	%Recovery
Vinyl Chloride	94
Methylene Chloride	82
1,1-Dichloroethane	77
cis-1,2-Dichloroethene	88
Chloroform	84
1,1,1-Trichloroethane	87
Benzene	92
1,2-Dichloroethane	86
Trichloroethene	90
Tetrachloroethene	92
Chlorobenzene	88
alpha-Chlorotoluene	99
Acetone	90
Carbon Disulfide	89
trans-1,2-Dichloroethene	94
2-Butanone (Methyl Ethyl Ketone)	89
Bromodichloromethane	86
4-Methyl-2-pentanone	89
Bromoform	84
ert-Butylbenzene	Not Spiked
Naphthalene	Not Spiked
1,2-Dichlorobenzene	84
1,4-Dichlorobenzene	84

		metnoa	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	100	70-130	
Toluene-d8	100	70-130	
4-Bromofluorobenzene	99	70-130	

SAMPLE NAME: LCS

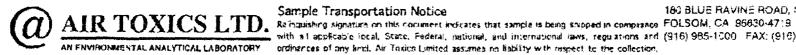
ID#: 0304034-14C

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	d040303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/3/03

Compound	%Recovery
Vinyl Chloride	90
Methylene Chloride	80
1,1-Dichloroethane	75
cís-1,2-Dichloroethene	85
Chloroform	82
1,1,1-Trichloroethane	83
Benzene	90
1,2-Dichloroethane	86
Trichloroethene	89
Tetrachloroethen <i>e</i>	90
Chlorobenzene	86
alpha-Chlorotoluene	95
Acetone	88
Carbon Disulfide	86
rans-1,2-Dichloroethene	91
2-Butanone (Methyl Ethyl Ketone)	86
Bromodichloromethane	84
1-Methyl-2-pentanone	87
Bromoform	82
ert-Butylbenzene	Not Spiked
Naphthalene	Not Spiked
1,2-Dichlorobenzene	83
1,4-Dichlorobenzene	81

2 1		Method		
Surrogates	%Recovery	Limits		
1,2-Dichloroethane-d4	99	70-130		
Toluene-d8	101	70-130		
4-Bromofluorobenzene	98	70-130		



with all applicable local, State, Federal, national, and international laws, regulations and (916) 985-1000 FAX: (916) 985-1020 ordinances of any limit. Air Toxica Limited assumes no liability with respect to the collection, handling of shipping of these samples. Relinquishing pigneture also indicates agreement to hold harmless, defend, and indemnity As Toxics Limited against any datm, demand, or action of any kind, related to the collection, handing, or shipping of samples, D.O.T. Hotime (800) #67-4922

180 BLUE RAVINE ROAD, SUITE B

Page 1 cf 1.

Contact Person Mike Susca Company TRC Environmental Address 5 Waterside (1665)ng City Windsor StateCT Zip 06095 Phone (860) 248-6234 FAX (860) 248-6399 Collected By: Signature Kate Laural			Project Info: P.O. # 3818(4) Project # 88182 Project Name Sautio Sauket	Turn Around Time: Li Normal Rush Scries Specify ML 4/2/93			
Field Sample I.D.	Date & Time	Analy	ses Requested	Caniste Initial	r Pressure . Final	/ Vacuum Recelpt ⊚	
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* Sample Transportation Notice

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180 DLUE RAVINE ROAD, SUITER

Page 1 of 1

Company TRC Environmental Address 5 Waterrie (msking City Windson State 4 Zip Old 95 Phone (860)298 6234 FAX (860)298-6393 Collected By: Stynatom Latt (all Nat			Project info: P.O. #	Turn Around Time: Normal Rush STE NITES Specify			
Collected By: Stynature Law Lawrence					ML 4/2/19		
Lab	Field Sample I.D.	Date & Time	Analy	rses Requested	ļ	r Pressure Final	·····
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180 BLUE RAVINE ROAD, SUITE 9

Page 1 of 1

					2		
Contact Person Mike Susta Company IRC Environmental Address 5 Waterside Crossing City Windia State CT Zip 00095 Phono (800)298-6234 FAX (500)298-6399 Collected By: Synamic Kate (auna V			Project info: P.O. # Project # 38182 Project Name # Solutio/ Çauget	Turn Around Time: Normal Rush SEE NOTES Specify ML 4/2/9			
Labo Field Sample I.D.	Date & Time	Analy	yses Requested	Canistei Initial	r Pressure		
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Air Toxics Ltd. Introduces the Electronic Report

Thank you for choosing Air Toxics Ltd. To better serve our customers, we are providing your report by e-mail. This document is provided in Portable Document Format which can be viewed with Acrobat Reader by Adobe.

This electronic report includes the following:

- · Work order Summary;
- · Laboratory Narrative;
- · Results; and
- · Chain of Custody (copy).

AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0304003B

Work Order Summary

CLIENT:

Mr. Gary Ritter

BILL TO:

Mr. Gary Ritter

TRC Environmental Corporation

TRC Environmental Corporation

5 Waterside Crossing Windsor, CT 06095 5 Waterside Crossing Windsor, CT 06095

860-298-6300

P.O. #

PHONE: FAX:

PROJECT # 38182 Solutia

DATE RECEIVED:

4/1/03

CONTACT: B

Betty Chu

DATE COMPLETED: 4/11/03

RECEIPT **TEST** FRACTION# **NAME** VAC/PRES, Modified TO-15/TIC 11A SVP-16-SG-033103 9.0 "Hg Modified TO-15/TIC 8.5 "Hg 12A SVP-12-SG-033103 12AA SVP-12-SG-033103 Duplicate Modified TO-15/TIC 8.5 "Hg Modified TO-15/TIC 13A SVP-15-SG-033103 8.0 "Hg Modified TO-15/TIC 14A SVP-8-SG-033103 8.5 "Hg 14AA SVP-8-SG-033103 Duplicate Modified TO-15/TIC 8.5 "Hg SVP-10-SG-033103 15A Modified TO-15/TIC 8.0 "Hg 16A SVP-100-SG-033103 Modified TO-15/TIC 7.5 "Hg 17A SVP-11-SG-033103 Modified TO-15/TIC 9.0 "Hg 18A SVP-9-SG-033103 Modified TO-15/TIC 8.5 "Hg 19A SVP-6-SG-033103 Modified TO-15/TIC 9.0 "Hg 20A SVP-Background Sample-033103 Modified TO-15/TIC 8.0 "Hg 21A Trip Blank 033103 Modified TO-15/TIC 29.0 "Hg Modified TO-15/TIC 22A Lab Blank NA 22BLab Blank Modified TO-15/TIC NA Modified TO-15/TIC 23A **CCV** NA Modified TO-15/TIC NA 23B **CCV** 24A LCS Modified TO-15/TIC NA

CERTIFIED BY:

24B

Sinda d. Fruman

TE: 04/14/03

NA

Modified TO-15/TIC

Laboratory Director

LCS

Certfication numbers: AR DEQ, CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004 NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/02, Expiration date: 06/30/03

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE Modified TO-15

TRC Environmental Corporation Workorder# 0304003B

Eleven 6 Liter Summa Canister samples were received on April 01, 2003. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.5 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis. See the data sheets for the reporting limits for each compound.

Method modifications taken to run these samples include:

Requirement	TO-15	ATL Modifications
BFB acceptance criteria	CLP protocol	SW-846 protocol
Concentration of IS spike	10 ppbv	25 ppbv when 0.5/2.0 ppbv is used for the reporting limt
Dilutions for initial calibration	Dynamic dilutions or static using canisters	Syringe dilutions
IS recoveries	Within 40% of mean over ICAL for blanks, and w/in 40% of daily CCV for samples.	Within 40% of CCV recoveries for blank and samples.
Daily CCV	30% Difference	30% Difference with two allowed out up to 40%.
Primary ions for Quantification	Freon 114: 85, Carbon Tetrachloride: 117, Trichloroethene: 130, Ethyl Benzene, m,p- and o-Xylene: 91	Freon 114: 135, Carbon Tetrachloride: 119, Trichloroethene: 95, Ethyl Benzene, m,p- and o-Xylene: 106

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The following compound, alpha-Chlorotoluene, indicated low bias (less than 70% expected recovery) in the daily CCV analyzed on 04-01-2003. Associated non-detects in samples SVP-10-SG-033103, SVP-100-SG-033103, SVP-9-SG-033103, SVP-9-SG-033103, SVP-6-SG-033103 , SVP-Background Sample-033103 , and Trip Blank 033103 were flagged to indicate estimated results with low bias.

The reported CCV for each daily batch may be derived from more than one individual analytical file due to the client's request for non-standard compounds.

Specific analytes that are requested by the client to be reported as tentatively identified compounds (TICs) are determined by searching for each compound's characteristic spectra. If no chromatographic peak displaying the compound specific spectra exists, then the TIC is reported as not detected. Please note that the laboratory has not evaluated the stability of any heretofore tentatively identified compound in the vapor phase or for efficiency of recovery through the analytical system.

By specific client request, Tetrafluoroethane was reported as a tentatively identified compound (TIC) to

assist in evaluation of the client sampling system.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
 - J Estimated value.
 - E Exceeds instrument calibration range.
 - S Saturated Peak.
 - Q Exceeds quality control limits.
 - U Compound analyzed for but not detected above the reporting limit.
 - UJ- Non-detected compound associated with low bias in the CCV
 - N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

SAMPLE NAME: SVP-16-SG-033103

ID#: 0304003B-11A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

丰 5 正한경난 288명이 하는 그 아니스 가득하면 화로하면 있다고 하는 하지만 하지만 하는 사람들이 다니스 아니스 하는 아니를 하는 하는 것은 그런 그렇게 되었다고 한다는 사람이다.	사람들 사람들은 살이 살아 있다면 그 것이 없다는 것이 없는 사람들이 없는 사람들이 없다.
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Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.96	2.5	Not Detected	Not Detected
Methylene Chloride	0.96	3.4	Not Detected	Not Detected
1,1-Dichloroethane	0.96	3.9	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.96	3.8	Not Detected	Not Detected
Chloroform	0.96	4.7	Not Detected	Not Detected
1,1,1-Trichloroethane	0.96	5.3	Not Detected	Not Detected
Benzene	0.96	3.1	Not Detected	Not Detected
1,2-Dichloroethane	0.96	3.9	Not Detected	Not Detected
Trichloroethene	0.96	5.2	Not Detected	Not Detected
Tetrachloroethene	0.96	6.6	Not Detected	Not Detected
Chlorobenzene	0.96	4.5	Not Detected	Not Detected
alpha-Chlorotoluene	0.96	5.0	Not Detected	Not Detected
Acetone	3.8	9.2	Not Detected	Not Detected
Carbon Disulfide	3.8	12	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.8	15	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.8	11	Not Detected	Not Detected
Bromodichloromethane	3.8	26	Not Detected	Not Detected
4-Methyl-2-pentanone	3.8	16	3.9	16
Bromoform	3.8	40	Not Detected	Not Detected
tert-Butylbenzene	3.8	21	Not Detected	Not Detected
Naphthalene	19	100	Not Detected	Not Detected
1,2-Dichlorobenzene	0.96	5.8	Not Detected	Not Detected
1,4-Dichlorobenzene	0.96	5.8	Not Detected	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv	
Tetrafluoroethane	BLNK01	NA	Not Detected	

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	92	70-130

SAMPLE NAME: SVP-12-SG-033103

ID#: 0304003B-12A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Date of Collection: 3/31/03

Date of Analysis: 4/1/03

d040119

1.87

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.94	2.4	Not Detected	Not Detected
Methylene Chloride	0.94	3.3	Not Detected	Not Detected
1,1-Dichloroethane	0.94	3.8	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.94	3.8	Not Detected	Not Detected
Chloroform	0.94	4.6	Not Detected	Not Detected
1,1,1-Trichloroethane	0.94	5.2	9.8	54
Benzene	0.94	3.0	Not Detected	Not Detected
1,2-Dichloroethane	0.94	3.8	Not Detected	Not Detected
Trichloroethene	0.94	5.1	Not Detected	Not Detected
Tetrachloroethene	0.94	6.4	2.9	20
Chlorobenzene	0.94	4.4	Not Detected	Not Detected
alpha-Chlorotoluene	0.94	4.9	Not Detected	Not Detected
Acetone .	3.7	9.0	Not Detected	Not Detected
Carbon Disulfide	3.7	12	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.7	15	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.7	11	Not Detected	Not Detected
Bromodichloromethane	3.7	25	Not Detected	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

16

39

21

100

5.7

5.7

Not Detected

3.7

3.7

3.7

19

0.94

0.94

			Amount
Compound	CAS Number	Match Quality	ppbv
Tetrafluoroethane	BLNK01	NA	Not Detected

Container Type: 6 Liter Summa Canister

4-Methyl-2-pentanone

1,2-Dichlorobenzene

1,4-Dichlorobenzene

tert-Butylbenzene Naphthalene

Bromoform

File Name:

Dil. Factor:

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	92	70-130

SAMPLE NAME: SVP-12-SG-033103 Duplicate

ID#: 0304003B-12AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

d040120

0.94

0.94

0.94

0.94

0.94

3.7

3.7

3.7

3.7

3.7

3.7

3.7

3.7

19

0.94

Date of Collection: 3/31/03

Not Detected

Not Detected

19

Not Detected

2.8

Not Detected

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.94	2.4	Not Detected	Not Detected
Methylene Chloride	0.94	3.3	Not Detected	Not Detected
1,1-Dichloroethane	0.94	3.8	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.94	3.8	Not Detected	Not Detected
Chloroform	0.94	4.6	Not Detected	Not Detected
1,1,1-Trichloroethane	0.94	5.2	9.4	52
Benzene	0.94	3.0	Not Detected	Not Detected

3.8

5.1

6.4

4.4

4.9

9.0

12

15

11

25

16

39

21

100

5.7

0.94	5.7
TENTATIVELY IDENT	IFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv	
Tetrafluoroethane	BLNK01	NA	Not Detected	

Container Type: 6 Liter Summa Canister

File Name:

1,2-Dichloroethane

Tetrachloroethene

Trichloroethene

Chlorobenzene alpha-Chlorotoluene

Carbon Disulfide

trans-1,2-Dichloroethene

Bromodichloromethane

4-Methyl-2-pentanone

1,2-Dichlorobenzene

1,4-Dichlorobenzene

tert-Butylbenzene Naphthalene

2-Butanone (Methyl Ethyl Ketone)

Acetone

Bromoform

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	92	70-130

SAMPLE NAME: SVP-15-SG-033103

ID#: 0304003B-13A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Compound	Røt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.92	2.4	Not Detected	Not Detected
Methylene Chloride	0.92	3.2	Not Detected	Not Detected
1,1-Dichloroethane	0.92	3.8	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.92	3.7	Not Detected	Not Detected
Chloroform	0.92	4.5	Not Detected	Not Detected
1,1,1-Trichloroethane	0.92	5.1	Not Detected	Not Detected
Benzene	0.92	3.0	Not Detected	Not Detected
1,2-Dichloroethane	0.92	3.8	Not Detected	Not Detected
Trichloroethene	0.92	5.0	Not Detected	Not Detected
Tetrachloroethene	0.92	6.3	Not Detected	Not Detected
Chlorobenzene	0.92	4.3	20	94
alpha-Chlorotoluene	0.92	4.8	Not Detected	Not Detected
Acetone	3.7	8.8	Not Detected	Not Detected
Carbon Disulfide	3.7	12	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.7	15	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.7	11	Not Detected	Not Detected
Bromodichloromethane	3.7	25	Not Detected	Not Detected
4-Methyl-2-pentanone	3.7	15	7.8	32
Bromoform	3.7	38	Not Detected	Not Detected
tert-Butylbenzene	3.7	20	Not Detected	Not Detected
Naphthalene	18	97	Not Detected	Not Detected
1,2-Dichlorobenzene	0.92	5.6	8.2	50
1,4-Dichlorobenzene	0.92	5.6	3.2	20

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane	BLNK01	NA	Not Detected

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	94	70-130

SAMPLE NAME: SVP-8-SG-033103

ID#: 0304003B-14A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	d040121 1.87		Date of Collect Date of Analys	TANGKA A TANGKA BASA BASA
Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.94	2.4	Not Detected	Not Detected
Methylene Chloride	0.94	3.3	Not Detected	Not Detected
1,1-Dichloroethane	0.94	3.8	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.94	3.8	Not Detected	Not Detected
Chloroform	0.94	4.6	11	53
1,1,1-Trichloroethane	0.94	5.2	Not Detected	Not Detected
Benzene	0.94	3.0	1.5	5.0
1,2-Dichloroethane	0.94	3.8	Not Detected	Not Detected
Trichloroethene	0.94	5.1	Not Detected	Not Detected
Tetrachloroethene	0.94	6.4	1.1	7.6
Chlorobenzene	0.94	4.4	Not Detected	Not Detected
alpha-Chlorotoluene	0.94	4.9	Not Detected	Not Detected
Acetone	3.7	9.0	11	28
Carbon Disulfide	3.7	12	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.7	15	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.7	11	Not Detected	Not Detected
Brornodichloromethane	3.7	25	Not Detected	Not Detected
4-Methyl-2-pentanone	3.7	16	Not Detected	Not Detected
Brornoform	3.7	39	Not Detected	Not Detected
tert-Butylbenzene	3.7	21	Not Detected	Not Detected
Naphthalene	19	100	Not Detected	Not Detected
1,2-Dichlorobenzene	0.94	5.7	Not Detected	Not Detected
1,4-Dichlorobenzene	0.94	5.7	Not Detected	Not Detected
	TENTATIVELY IDEN	TIFIED COMPOUNDS		
Compound		CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane		BLNK01	NA	Not Detected
Container Type: 6 Liter Summa Cani	ster			
		%Recovery		Method Limits
Surrogates				
1,2-Dichloroethane-d4		98		70-130
Toluene-d8		98		70-130
4-Bromofluorobenzene		93		70-130

SAMPLE NAME: SVP-8-SG-033103 Duplicate

ID#: 0304003B-14AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.94	2.4	Not Detected	Not Detected
Methylene Chloride	0.94	3.3	Not Detected	Not Detected
1,1-Dichloroethane	0.94	3.8	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.94	3.8	Not Detected	Not Detected
Chloroform	0.94	4.6	11	55
1,1,1-Trichloroethane	0.94	5.2	Not Detected	Not Detected
Benzene	0.94	3.0	1.6	5.1
1,2-Dichloroethane	0.94	3.8	Not Detected	Not Detected
Trichloroethene	0.94	5. 1	Not Detected	Not Detected
Tetrachloroethene	0.94	6.4	1.1	7.8
Chlorobenzene	0.94	4.4	Not Detected	Not Detected
alpha-Chlorotoluene	0.94	4.9	Not Detected	Not Detected
Acetone	3.7	9.0	12	28
Carbon Disulfide	3.7	12	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.7	15	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.7	11	Not Detected	Not Detected
Bromodichloromethane	3.7	25	Not Detected	Not Detected
4-Methyl-2-pentanone	3.7	16	Not Detected	Not Detected
Bromoform	3.7	39	Not Detected	Not Detected
tert-Butylbenzene	3.7	21	Not Detected	Not Detected
Naphthalene	19	100	Not Detected	Not Detected
1,2-Dichlorobenzene	0.94	5.7	Not Detected	Not Detected
1,4-Dichlorobenzene	0.94	5.7	Not Detected	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane	BLNK01	NA	Not Detected

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	95	70-130

SAMPLE NAME: SVP-10-SG-033103

ID#: 0304003B-15A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Dil. Factor: 366 Date of Analysis: 4/1/03	File Name: Dil. Factor:	b040115 366		Date of Collection Date of Analysis:	11 Hell A 3 3 3 3 4 4 4 1
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Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	180	480	Not Detected	Not Detected
Methylene Chloride	180	650	Not Detected	Not Detected
1,1-Dichloroethane	180	750	Not Detected	Not Detected
cis-1,2-Dichloroethene	180	740	Not Detected	Not Detected
Chloroform	180	910	Not Detected	Not Detected
1,1,1-Trichloroethane	180	1000	Not Detected	Not Detected
Benzene	180	590	680	2200
1,2-Dichloroethane	180	750	Not Detected	Not Detected
Trichloroethene	180	1000	Not Detected	Not Detected
Tetrachloroethene	180	1300	Not Detected	Not Detected
Chlorobenzene	180	860	31000	140000
alpha-Chlorotoluene	180	960	Not Detected U J	Not Detected U J
Acetone	730	1800	Not Detected	Not Detected
Carbon Disulfide	730	2300	Not Detected	Not Detected
trans-1,2-Dichloroethene	730	2900	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	730	2200	Not Detected	Not Detected
Bromodichloromethane	730	5000	Not Detected	Not Detected
4-Methyl-2-pentanone	730	3000	Not Detected	Not Detected
Bromoform	730	7700	Not Detected	Not Detected
tert-Butylbenzene	730	4100	Not Detected	Not Detected
Naphthalene	3700	19000	Not Detected	Not Detected
1,2-Dichlorobenzene	180	1100	870	5300
1,4-Dichlorobenzene	180	1100	4500	28000

TENTATIVELY IDENTIFIED COMPOUNDS

	0.00	11 () O P	Amount	
Compound	CAS Number	Match Quality	ppbv	-
Tetrafluoroethane	BLNK01	NA	Not Detected	

UJ = Non-detected compound associated with low bias in the CCV

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	86	70-130

SAMPLE NAME: SVP-100-SG-033103

ID#: 0304003B-16A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Later a display in the case of the control of the c	
File Name:	b040116 Date of Collection: 3/31/03
Dil. Factor:	179 Date of Analysis: 4/1/03
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Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	90	230	Not Detected	Not Detected
Methylene Chloride	90	320	Not Detected	Not Detected
1,1-Dichloroethane	90	370	Not Detected	Not Detected
cis-1,2-Dichloroethene	90	360	Not Detected	Not Detected
Chloroform	90	440	Not Detected	Not Detected
1,1,1-Trichloroethane	90	500	Not Detected	Not Detected
Benzene	90	290	660	2200
1,2-Dichloroethane	90	370	Not Detected	Not Detected
Trichloroethene	90	490	Not Detected	Not Detected
Tetrachloroethene	90	620	Not Detected	Not Detected
Chlorobenzene	90	420	32000	150000
alpha-Chlorotoluene	90	470	Not Detected U J	Not Detected U J
Acetone	360	860	Not Detected	Not Detected
Carbon Disulfide	360	1100	Not Detected	Not Detected
trans-1,2-Dichloroethene	360	1400	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	360	1100	Not Detected	Not Detected
Bromodichloromethane	360	2400	Not Detected	Not Detected
4-Methyl-2-pentanone	360	1500	Not Detected	Not Detected
Bromoform	360	3800	Not Detected	Not Detected
tert-Butylbenzene	360	2000	Not Detected	Not Detected
Naphthalene	1800	9500	Not Detected	Not Detected
1,2-Dichlorobenzene	90	550	810	4900
1,4-Dichlorobenzene	90	550	4400	27000

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	ppbv	
Tetrafluoroethane	BLNK01	NA NA	Not Detected	-

UJ = Non-detected compound associated with low bias in the CCV

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	87	70-130

SAMPLE NAME: SVP-11-SG-033103

ID#: 0304003B-17A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	b040117	Date of Collection: 3/31/03
Dil. Factor:	1.91	Date of Analysis: 4/1/03

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.96	2.5	Not Detected	Not Detected
Methylene Chloride	0.96	3.4	Not Detected	Not Detected
1,1-Dichloroethane	0.96	3.9	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.96	3.8	Not Detected	Not Detected
Chloroform	0.96	4.7	Not Detected	Not Detected
1,1,1-Trichloroethane	0.96	5.3	170	950
Benzene	0.96	3.1	Not Detected	Not Detected
1,2-Dichloroethane	0.96	3.9	Not Detected	Not Detected
Trichloroethene	0.96	5.2	Not Detected	Not Detected
Tetrachloroethene	0.96	6.6	92	630
Chlorobenzene	0.96	4.5	Not Detected	Not Detected
alpha-Chlorotoluene	0.96	5.0	Not Detected U J	Not Detected U J
Acetone	3.8	9.2	Not Detected	Not Detected
Carbon Disulfide	3.8	12	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.8	15	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.8	11	Not Detected	Not Detected
Bromodichloromethane	3.8	26	Not Detected	Not Detected
4-Methyl-2-pentanone	3.8	16	Not Detected	Not Detected
Bromoform	3.8	40	Not Detected	Not Detected
tert-Butylbenzene	3.8	21	Not Detected	Not Detected
Naphthalene	19	100	Not Detected	Not Detected
1,2-Dichlorobenzene	0.96	5.8	Not Detected	Not Detected
1,4-Dichlorobenzene	0.96	5.8	Not Detected	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

		-	Amount
Compound	CAS Number	Match Quality	ppbv
Tetrafluoroethane	BLNK01	NA	Not Detected

UJ = Non-detected compound associated with low bias in the CCV

••		Method Limits	
Surrogates	%Recovery		
1,2-Dichloroethane-d4	110	70-130	
Toluene-d8	100	70-130	
4-Bromofluorobenzene	83	70-130	

SAMPLE NAME: SVP-9-SG-033103

ID#: 0304003B-18A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

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File Name: b040120 Date of Collection	^
File Name: b040120 Date of Collection	THE COUNTY OF THE PROPERTY OF
- 軽点性を感染を変われては、ないには、これには、大幅のでは、アンド・サンドルとして、これを表現して、たいと、アンド・サンド・オペンとは、大型に、大型に、アンド・アンド・スト・アンド・アンド・オート・アンド・オート・アンド・オート・アンド・オート・アンド・アンド・アンド・アンド・アンド・アンド・アンド・アンド・アンド・アンド	
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Dilt. Factor: 74.8 Date of Analysis	
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Compound	Rɒt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	37	97	Not Detected	Not Detected
Methylene Chloride	37	130	Not Detected	Not Detected
1,1-Dichloroethane	37	150	Not Detected	Not Detected
cis-1,2-Dichloroethene	37	150	Not Detected	Not Detected
Chloroform	37	180	Not Detected	Not Detected
1,1,1-Trichloroethane	37	210	Not Detected	Not Detected
Benzene	37	120	Not Detected	Not Detected
1,2-Dichloroethane	37	150	Not Detected	Not Detected
Trichloroethene	37	200	Not Detected	Not Detected
Tetrachloroethene	37	260	55	380
Chlorobenzene	37	180	Not Detected	Not Detected
alpha-Chlorotoluene	37	200	Not Detected U J	Not Detected U J
Acetone	150	360	Not Detected	Not Detected
Carbon Disulfide	150	470	Not Detected	Not Detected
trans-1,2-Dichloroethene	150	600	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	150	450	Not Detected	Not Detected
Bromodichloromethane	150	1000	Not Detected	Not Detected
4-Methyl-2-pentanone	150	620	Not Detected	Not Detected
Bromoform	150	1600	Not Detected	Not Detected
tert-Butylbenzene	150	830	Not Detected	Not Detected
Naphthalene	750	4000	Not Detected	Not Detected
1,2-Dichlorobenzene	37	230	46	280
1,4-Dichlorobenzene	37	230	Not Detected	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane	BLNK01	NA	1800

UJ = Non-detected compound associated with low bias in the CCV

•		Method Limits	
Surrogates	%Recovery		
1,2-Dichloroethane-d4	120	70-130	
Toluene-d8	99	70-130	
4-Bromofluorobenzene	84	70-130	

SAMPLE NAME: SVP-6-SG-033103

ID#: 0304003B-19A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:		
	b040119	Date of Collection: 3/31/03
Dil. Factor:	(4) (24) (24) (24) (25) (25) (25) (25) (25) (25) (25) (25	
	trans a figure to fill a back. Efficiency as first and first	Date of Analysis: 4/1/03

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.96	2.5	Not Detected	Not Detected
Methylene Chloride	0.96	3.4	Not Detected	Not Detected
1,1-Dichloroethane	0.96	3.9	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.96	3.8	Not Detected	Not Detected
Chloroform	0.96	4.7	Not Detected	Not Detected
1,1,1-Trichloroethane	0.96	5.3	Not Detected	Not Detected
Benzene	0.96	3.1	Not Detected	Not Detected
1,2-Dichloroethane	0.96	3.9	Not Detected	Not Detected
Trichloroethene	0.96	5.2	Not Detected	Not Detected
Tetrachloroethene	0.96	6.6	150	1000
Chlorobenzene	0.96	4.5	Not Detected	Not Detected
alpha-Chlorotoluene	0.96	5.0	Not Detected U J	Not Detected U J
Acetone	3.8	9.2	6.7	16
Carbon Disulfide	3.8	12	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.8	15	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.8	11	Not Detected	Not Detected
Bromodichloromethane	3.8	26	Not Detected	Not Detected
4-Methyl-2-pentanone	3.8	16	Not Detected	Not Detected
Bromoform	3.8	40	Not Detected	Not Detected
tert-Butylbenzene	3.8	21	Not Detected	Not Detected
Naphthalene	19	100	Not Detected	Not Detected
1,2-Dichlorobenzene	0.96	5.8	Not Detected	Not Detected
1,4-Dichlorobenzene	0.96	5.8	Not Detected	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

			Amount
Compound	CAS Number	Match Quality	ppbv
Tetrafluoroethane	BLNK01	NA	Not Detected

UJ = Non-detected compound associated with low bias in the CCV

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	83	70-130

SAMPLE NAME: SVP-Background Sample-033103

ID#: 0304003B-20A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

- 35 家 3 / 4 / 7 / 2 / 2 / 2 / 2 / 3 / 4 / 2 / 3 / 4 / 2 / 3 / 4 / 2 / 3 / 4 / 2 / 3 / 4 / 2 / 3 / 4 / 2 / 3 / 4 / 2 / 3 / 4 / 2 / 3 / 4 / 2 / 3 / 4 / 2 / 3 / 4 / 2 / 3 / 4 / 2 / 3 / 4 / 2 / 3 / 4 / 4 / 3 / 4 / 4 / 4 / 4 / 4 / 4	Secretary 1/200 miles and are found to the first of the f	
File Name:	b040121	Date of Collection: 3/31/03
	지근가 그래, 사람이 마음하지만 하는 보니가 보니 얼마를 받아 가 되었습니까?	
Dil. Factor:	그렇다 말씀하는 귀즘들이 하는 사람들을 하는 말을 받는 그리고 그릇	Date of Analysis: 4/1/03
Un. Factor.	그런 하늘말을 하시다. 그는 사람들이 얼마를 하시고 됐습니다.	Date of Analysis: 4/1/05
 In Note that is a standard control of the control of the standard of the standard		

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.92	2.4	Not Detected	Not Detected
Methylene Chloride	0.92	3.2	Not Detected	Not Detected
1,1-Dichloroethane	0.92	3.8	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.92	3.7	Not Detected	Not Detected
Chloroform	0.92	4.5	Not Detected	Not Detected
1,1,1-Trichloroethane	0.92	5.1	Not Detected	Not Detected
Benzene	0.92	3.0	Not Detected	Not Detected
1,2-Dichloroethane	0.92	3.8	Not Detected	Not Detected
Trichloroethene	0.92	5.0	Not Detected	Not Detected
Tetrachloroethene	0.92	6.3	Not Detected	Not Detected
Chlorobenzene	0.92	4.3	Not Detected	Not Detected
alpha-Chlorotoluene	0.92	4.8	Not Detected U J	Not Detected U J
Acetone	3.7	8.8	Not Detected	Not Detected
Carbon Disulfide	3.7	12	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.7	15	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.7	11	Not Detected	Not Detected
Bromodichloromethane	3.7	25	Not Detected	Not Detected
4-Methyl-2-pentanone	3.7	15	Not Detected	Not Detected
Bromoform	3.7	38	Not Detected	Not Detected
tert-Butylbenzene	3.7	20	Not Detected	Not Detected
Naphthalene	18	97	Not Detected	Not Detected
1,2-Dichlorobenzene	0.92	5.6	Not Detected	Not Detected
1,4-Dichlorobenzene	0.92	5.6	Not Detected	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

			Amount
Compound	CAS Number	Match Quality	ppbv
Tetrafluoroethane	BLNK01	NA	Not Detected

UJ = Non-detected compound associated with low bias in the CCV

		Method Limits	
Surrogates	%Recovery		
1,2-Dichloroethane-d4	109	70-130	
Toluene-d8	97	70-130	
4-Bromofluorobenzene	84	70-130	

SAMPLE NAME: Trip Blank 033103

ID#: 0304003B-21A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	b0 4	10122	Date of Collection: 3/31/03
Dil. Factor:		1.00	Date of Analysis: 4/1/03
			Date of Analysis. 47 1700

Compound	Rɒt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.50	1.3	Not Detected	Not Detected
Methylene Chloride	0.50	1.8	Not Detected	Not Detected
1,1-Dichloroethane	0.50	2.0	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.50	2.0	Not Detected	Not Detected
Chloroform	0.50	2.5	Not Detected	Not Detected
1,1,1-Trichloroethane	0.50	2.8	Not Detected	Not Detected
Benzene	0.50	1.6	Not Detected	Not Detected
1,2-Dichloroethane	0.50	2.0	Not Detected	Not Detected
Trichloroethene	0.50	2.7	Not Detected	Not Detected
Tetrachloroethene	0.50	3.4	Not Detected	Not Detected
Chlorobenzene	0.50	2.3	Not Detected	Not Detected
alpha-Chlorotoluene	0.50	2.6	Not Detected U J	Not Detected U J
Acetone	2.0	4.8	Not Detected	Not Detected
Carbon Disulfide	2.0	6.3	Not Detected	Not Detected
trans-1,2-Dichloroethene	2.0	8.0	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	6.0	Not Detected	Not Detected
Bromodichloromethane	2.0	14	Not Detected	Not Detected
4-Methyl-2-pentanone	2.0	8.3	Not Detected	Not Detected
Bromoform	2.0	21	Not Detected	Not Detected
tert-Butylbenzene	2.0	11	Not Detected	Not Detected
Naphthalene	10	53	Not Detected	Not Detected
1,2-Dichlorobenzene	0.50	3.0	Not Detected	Not Detected
1,4-Dichlorobenzene	0.50	3.0	Not Detected	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

			Amount
Compound	CAS Number	Match Quality	ppbv
Tetrafluoroethane	BLNK01	NA	Not Detected

UJ = Non-detected compound associated with low bias in the CCV

,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	83	70-130

SAMPLE NAME: Lab Blank

ID#: 0304003B-22A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dif, Factor:	d040107 1.00		Date of Collect Date of Analys	
Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.50	1.3	Not Detected	Not Detected
Methylene Chloride	0.50	1.8	Not Detected	Not Detected
1,1-Dichloroethane	0.50	2.0	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.50	2.0	Not Detected	Not Detected
Chloroform	0.50	2.5	Not Detected	Not Detected
1,1,1-Trichloroethane	0.50	2.8	Not Detected	Not Detected
Benzene	0.50	1.6	Not Detected	Not Detected
1,2-Dichloroethane	0.50	2.0	Not Detected	Not Detected
Trichloroethene	0.50	2.7	Not Detected	Not Detected
Tetrachloroethene	0.50	3.4	Not Detected	Not Detected
Chlorobenzene	0.50	2.3	Not Detected	Not Detected
alpha-Chlorotoluene	0.50	2.6	Not Detected	Not Detected
Acetone	2.0	4.8	Not Detected	Not Detected
Carbon Disulfide	2.0	6.3	Not Detected	Not Detected
trans-1,2-Dichloroethene	2.0	8.0	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	6.0	Not Detected	Not Detected
Bromodichloromethane	2.0	14	Not Detected	Not Detected
4-Methyl-2-pentanone	2.0	8.3	Not Detected	Not Detected
Bromoform	2.0	21	Not Detected	Not Detected
tert-Butylbenzene	2.0	11	Not Detected	Not Detected
Naphthalene	10	53	Not Detected	Not Detected
1,2-Dichlorobenzene	0.50	3.0	Not Detected	Not Detected
1,4-Dichlorobenzene	0.50	3.0	Not Detected	Not Detected
	TENTATIVELY IDEN	TIFIED COMPOUNDS		
Compound		CAS Number	Match Quality	Amount ppbv
Tetrahydrofuran		BLNK01	NA	Not Detected
Container Type: NA - Not Applicable				
Surrogates		%Recovery		Method Limits
1,2-Dichloroethane-d4		98		70-130
Toluene-d8		98		70 -1 30
4-Bromofluorobenzene		93		70-130 70-130

SAMPLE NAME: Lab Blank

ID#: 0304003B-22B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: b040107 Date of Collection: NA DIL Factor: 1.00 Date of Analysis: 4/1/03

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.50	1.3	Not Detected	Not Detected
Methylene Chloride	0.50	1.8	Not Detected	Not Detected
1,1-Dichloroethane	0.50	2.0	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.50	2.0	Not Detected	Not Detected
Chloroform	0.50	2.5	Not Detected	Not Detected
1,1,1-Trichloroethane	0.50	2.8	Not Detected	Not Detected
Benzene	0.50	1.6	Not Detected	Not Detected
1,2-Dichloroethane	0.50	2.0	Not Detected	Not Detected
Trichloroethene	0.50	2.7	Not Detected	Not Detected
Tetrachloroethene	0.50	3.4	Not Detected	Not Detected
Chlorobenzene	0.50	2.3	Not Detected	Not Detected
alpha-Chlorotoluene	0.50	2.6	Not Detected U J	Not Detected U J
Acetone	2.0	4.8	Not Detected	Not Detected
Carbon Disulfide	2.0	6.3	Not Detected	Not Detected
trans-1,2-Dichloroethene	2.0	8.0	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	6.0	Not Detected	Not Detected
Bromodichloromethane	2.0	14	Not Detected	Not Detected
4-Methyl-2-pentanone	2.0	8.3	Not Detected	Not Detected
Bromoform	2.0	21	Not Detected	Not Detected
tert-Butylbenzene	2.0	11	Not Detected	Not Detected
Naphthalene	10	53	Not Detected	Not Detected
1,2-Dichlorobenzene	0.50	3.0	Not Detected	Not Detected
1,4-Dichlorobenzene	0.50	3.0	Not Detected	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv	
Tetrahydrofuran	BLNK01	NA	Not Detected	

UJ = Non-detected compound associated with low bias in the CCV

Container Type: NA - Not Applicable

,,p		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	108	70-130	
Toluene-d8	99	70-130	
4-Bromofluorobenzene	83	70-130	

SAMPLE NAME: CCV

ID#: 0304003B-23A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: d040102	Date of Collection: NA
Dil. Factor:	
	Date of Analysis: 4/1/03

Compound	%Recovery
Vinyl Chloride	85
Methylene Chloride	80
1,1-Dichloroethane	84
cis-1,2-Dichloroethene	85
Chloroform	85
I,1,1-Trichloroethane	89
Benzene	85
,2-Dichloroethane	85
Frichloroethene	86
letrachloroethene	84
Chlorobenzene	84
alpha-Chlorotoluene	88
Acetone	90
Carbon Disulfide	88
rans-1,2-Dichloroethene	87
P-Butanone (Methyl Ethyl Ketone)	90
Bromodichloromethane	95
-Methyl-2-pentanone	94
Bromoform	98
ert-Butylbenzene	110
laphthalene	92
,2-Dichlorobenzene	84
,4-Dichlorobenzene	87

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane	BLNK01	NA	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Surrogates	Micecovery	Ellinto
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	98	70-130

SAMPLE NAME: CCV

ID#: 0304003B-23B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

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File Name:	b040102	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/1/03
		Date of Affaiysis, 4/1/05
* - 1879 - 18 - 1971 - 1984 - 1971 -	· なっっ	Haracher Community and the Community of

Compound	%Recovery
Vinyl Chloride	104
Methylene Chloride	108
1,1-Dichloroethane	114
sis-1,2-Dichloroethene	115
Chloroform	111
,1,1-Trichloroethane	111
Benzene	108
,2-Dichloroethane	121
richloroethene	114
etrachloroethene	118
Chlorobenzene	105
lpha-Chlorotoluene	61 Q
cetone	94
Carbon Disulfide	81
rans-1,2-Dichloroethene	81
-Butanone (Methyl Ethyl Ketone)	100
romodichloromethane	92
-Methyl-2-pentanone	106
Fromoform	84
ert-Butylbenzene	77
laphthalene	90
,2-Dichlorobenzene	70
,4-Dichlorobenzene	74

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number Match Quality		Amount ppbv
Tetrafluoroethane	BLNK01	NA	Not Spiked

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	85	70-130

SAMPLE NAME: LCS

ID#: 0304003B-24A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	d0401	03	Date of Collection: NA
Dil. Factor:	1	.00	Date of Analysis: 4/1/03

Compound	%Recovery
Vinyl Chloride	90
Methylene Chloride	78
,1-Dichloroethane	74
sis-1,2-Dichloroethene	84
Chloroform	81
,1,1-Trichloroethane	83
enzene	90
,2-Dichloroethane	85
richloroethene	89
etrachloroethene	89
hlorobenzene	85
lpha-Chlorotoluene	99
cetone	84
Carbon Disulfide	85
ans-1,2-Dichloroethene	88
-Butanone (Methyl Ethyl Ketone)	84
romodichloromethane	85
-Methyl-2-pentanone	86
Bromoform	81
ert-Butylbenzene	Not Spiked
laphthalene	Not Spiked
,2-Dichlorobenzene	85
,4-Dichlorobenzene	82

TENTATIVELY IDENTIFIED COMPOUNDS

			Amount
Compound	CAS Number	Match Quality	ppbv
Tetrafluoroethane	BLNK01	NA	Not Spiked

Container Type: NA - Not Applicable

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	98	70-130

SAMPLE NAME: LCS

ID#: 0304003B-24B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

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File Name:	b040104	Date of Collection: NA
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Dil. Factor:	1.00	Date of Analysis: 4/1/03
No. 100, 300 page 1 to 10 to 1		

Compound	%Recovery
Vinyl Chloride	122
Methylene Chloride	109
1,1-Dichloroethane	104
cis-1,2-Dichloroethene	119
Chloroform	110
1,1,1-Trichloroethane	110
Benzene	117
1,2-Dichloroethane	126
Trichloroethene	122
Tetrachloroethene	129
Chlorobenzene	109
alpha-Chlorotoluene	68 Q
Acetone	88
Carbon Disulfide	80
rans-1,2-Dichloroethene	87
2-Butanone (Methyl Ethyl Ketone)	95
Bromodichloromethane	82
4-Methyl-2-pentanone	96
Bromoform	70
ert-Butylbenzene	Not Spiked
Naphthalene	Not Spiked
1,2-Dichlorobenzene	71
1,4-Dichlorobenzene	71

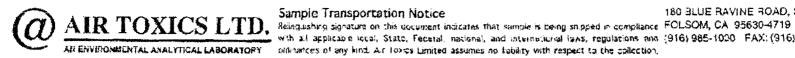
TENTATIVELY IDENTIFIED COMPOUNDS

			Amount
Compound	CAS Number	Match Quality	ppbv
Tetrafluoroethane	BLNK01	NA	Not Spiked

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	86	70-130

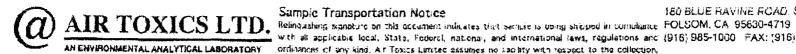


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180 BLUE RAVINE ROAD, SUITE B

Page | of |

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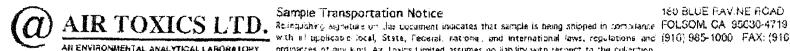


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180 BLUE RAVINE ROAD, SUITE B

Page 1 of 1

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kind, related to the collection, handling, or an oping of samples, 0.0.T. Hoting (800) 467-4922 Page of Contact Person MIKE SUSCA Project info: Turn Around Time: Company TRC Environmental P.O. # ☐ Normal Address 5 Watersale Crossing City Windson State CT Zip Change Project # 29:182 W Rush See North Prone 1866) 298 - 6234 FAX (840) 298 -6299 Projec: Name Shirts / Souget Collected By: Signature Vatt Laural ML 4.61.03 Lab Canister Pressure / Vacuum Field Sample i.D. Date & Time Analyses Requested · Receipt Initial **Final** 4.04 KVP-11-86 033103 5/31/03 - 1548 TO-15-relev to analyte list previously salmitted 28.5 857 Hs 19A SUP- 4-54-033103 29 TERCHARUMA SAMORE -03310-3 28 3/3/08 - 1547 TO 15 -Relinquisted dy (Signature) / Date/Time Received By (Signature) Date/Time Notes: 48 hr tat on analysis Hotoquisand by (Signalus) (Bergy) inte Received By (Signalura) Darwilline 78 4/1/63 Shipper Name Work Order # AIR BILL Opened By: Temp. ('C) Condition Custody Sesis Intact? Feel Ex (Yes) No None Üse Only



Sample Transportation Notice

AIR TOXICS LTD. Sample Transportation Notice

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180 BLUE PAVINE HOAD, SUITE B

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Air Toxics Ltd. Introduces the Electronic Report

Thank you for choosing Air Toxics Ltd. To better serve our customers, we are providing your report by e-mail. This document is provided in Portable Document Format which can be viewed with Acrobat Reader by Adobe.

This electronic report includes the following:

- Work order Summary;
- · Laboratory Narrative;
- · Results; and
- · Chain of Custody (copy).

AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0304003A

Work Order Summary

CLIENT:

Mr. Gary Ritter

BILL TO:

: Mr. Gary Ritter

TRC Environmental Corporation

TRC Environmental Corporation 5 Waterside Crossing

5 Waterside Crossing

Windsor, CT 06095

Windsor, CT 06095

PHONE:

860-298-6300

P.O. #

FAX:

PROJECT# 38182 Solutia

DATE RECEIVED: DATE COMPLETED: 4/1/03 4/14/03

CONTACT:

Betty Chu

			RECEIPT
FRACTION #	NAME	<u>TEST</u>	VAC./PRES.
01A	BBZ-Office-9910	Modified TO-15/TIC	6.5 "Hg
02A	BBZ-Intake-9584	Modified TO-15/TIC	6.5 "Hg
03A	BBG-Office-9571	Modified TO-15/TIC	6.5 "Hg
04A	BBG-Intake-96105	Modified TO-15/TIC	4.5 "Hg
05A	CCB-Office-TO1560	Modified TO-15/TIC	6.5 "Hg
06A	CCB-Intake-14883	Modified TO-15/TIC	4.5 "Hg
07A	BK-1st Fl. Office-24489	Modified TO-15/TIC	6.5 "Hg
08A	BK-Intake-33584	Modified TO-15/TIC	4.5 "Hg
09A	BK-Dist-TO1627	Modified TO-15/TIC	6.5 "Hg
10A	BK-Dist-Duplicate-1584	Modified TO-15/TIC	6.5 "Hg
11A	Lab Blank	Modified TO-15/TIC	NA
11B	Lab Blank	Modified TO-15/TIC	NA
12A	CCV	Modified TO-15/TIC	NA
12B	CCV	Modified TO-15/TIC	NA
13A	LCS	 Modified TO-15/TIC 	NA
13B	LCS	Modified TO-15/TIC	NA

CERTIFIED BY:

Sinda d. Fruman

DATE: $\frac{04/14/03}{}$

Laboratory Director

Certification numbers: AR DEQ, CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004 NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/02, Expiration date: 06/30/03

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE Modified TO-15

TRC Environmental Corporation Workorder# 0304003A

Ten 6 Liter Summa Canister samples were received on April 01, 2003. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.5 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis. See the data sheets for the reporting limits for each compound.

Method modifications taken to run these samples include:

Requirement	TO-15	ATL Modifications
BFB acceptance criteria	CLP protocol	SW-846 protocol
Concentration of IS spike	10 ppbv	25 ppbv when 0.5/2.0 ppbv is used for the reporting limt
Dilutions for initial calibration	Dynamic dilutions or static using canisters	Syringe dilutions
IS recoveries	Within 40% of mean over ICAL for blanks, and w/in 40% of daily CCV for samples.	Within 40% of CCV recoveries for blank and samples.
Daily CCV	30% Difference	30% Difference with two allowed out up to 40%.
Primary ions for Quantification	Freon 114: 85, Carbon Tetrachloride: 117, Trichloroethene: 130, Ethyl Benzene, m,p- and o-Xylene: 91	Freon 114: 135, Carbon Tetrachloride: 119, Trichloroethene: 95, Ethyl Benzene, m,p- and o-Xylene: 106

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Sample CCB-Office-TO1560 was analyzed 19 minutes past a 72 hour hold time. The client was notified and permission given to proceed with analysis and reporting.

The following compound, alpha-Chlorotoluene, indicated low bias (less than 70% expected recovery) in the daily CCV analyzed on 04/01/03. Associated non-detects in samples BBZ-Office-9910, BBZ-Intake-9584, BBG-Office-9571 and BBG-Intake-96105 were flagged to indicate estimated results with low bias.

The reported CCV for each daily batch may be derived from more than one individual analytical file due to the client's request for non-standard compounds.

Specific analytes that are requested by the client to be reported as tentatively identified compounds (TICs) are determined by searching for each compound's characteristic spectra. If no chromatographic peak displaying the compound specific spectra exists, then the TIC is reported as not detected. Please note that the laboratory has not evaluated the stability of any heretofore tentatively identified compound in the vapor phase or for efficiency of recovery through the analytical system.

By specific client request, Tetrafluoroethane was reported as a tentatively identified compound (TIC) to assist in evaluation of the client sampling system.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
 - J Estimated value.
 - E Exceeds instrument calibration range.
 - S Saturated Peak.
 - Q Exceeds quality control limits.
 - U Compound analyzed for but not detected above the reporting limit.
 - UJ- Non-detected compound associated with low bias in the CCV
 - N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

SAMPLE NAME: BBZ-Office-9910

ID#: 0304003A-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: b0 ²	0108 1 71	Date of Collection: 3/29/03 Date of Analysis: 4/1/03
		Date of Allalysis. 4/1/03

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.86	2.2	Not Detected	Not Detected
Methylene Chloride	0.86	3.0	60	210
1,1-Dichloroethane	0.86	3.5	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.86	3.4	Not Detected	Not Detected
Chloroform	0.86	4.2	Not Detected	Not Detected
1,1,1-Trichloroethane	0.86	4.7	Not Detected	Not Detected
Benzene	0.86	2.8	Not Detected	Not Detected
1,2-Dichloroethane	0.86	3.5	Not Detected	Not Detected
Trichloroethene	0.86	4.7	Not Detected	Not Detected
Tetrachloroethene	0.86	5.9	Not Detected	Not Detected
Chlorobenzene	0.86	4.0	Not Detected	Not Detected
alpha-Chlorotoluene	0.86	4.5	Not Detected U J	Not Detected U J
Acetone	3.4	8.2	7.4	18
Carbon Disulfide	3.4	11	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.4	14	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.4	10	20	61
Bromodichloromethane	3.4	23	Not Detected	Not Detected
4-Methyl-2-pentanone	3.4	14	130	530
Bromoform	3.4	36	Not Detected	Not Detected
tert-Butylbenzene	3.4	19	Not Detected	Not Detected
Naphthalene	17	91	Not Detected	Not Detected
1,2-Dichlorobenzene	0.86	5.2	Not Detected	Not Detected
1,4-Dichlorobenzene	0.86	5.2	Not Detected	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane	BLNK01	NA	Not Detected

UJ = Non-detected compound associated with low bias in the CCV

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	106	70-130	
Toluene-d8	101	70-130	
4-Bromofluorobenzene	84	70-130	

SAMPLE NAME: BBZ-Intake-9584

ID#: 0304003A-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

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File Name:	b040109 Date of Collection: 3/29/03
	STATE OF CONGULAR CONTROL OF THE PROPERTY OF CONGULAR CONTROL OF C
	(1997) 1985년 1월 1일
Dil: Factor:	1.71 Date of Analysis: 4/1/03
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Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.86	2.2	Not Detected	Not Detected
Methylene Chloride	0.86	3.0	25	88
1,1-Dichloroethane	0.86	3.5	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.86	3.4	Not Detected	Not Detected
Chloroform	0.86	4.2	Not Detected	Not Detected
1,1,1-Trichloroethane	0.86	4.7	Not Detected	Not Detected
Benzene	0.86	2.8	Not Detected	Not Detected
1,2-Dichloroethane	0.86	3.5	Not Detected	Not Detected
Trichloroethene	0.86	4.7	Not Detected	Not Detected
Tetrachloroethene	0.86	5.9	Not Detected	Not Detected
Chlorobenzene	0.86	4.0	Not Detected	Not Detected
alpha-Chlorotoluene	0.86	4.5	Not Detected U J	Not Detected U J
Acetone	3.4	8.2	5.2	12
Carbon Disulfide	3.4	11	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.4	14	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.4	10	22	67
Bromodichloromethane	3.4	23	Not Detected	Not Detected
4-Methyl-2-pentanone	3.4	14	160	660
Bromoform	3.4	36	Not Detected	Not Detected
tert-Butylbenzene	3.4	19	Not Detected	Not Detected
Naphthalene	17	91	Not Detected	Not Detected
1,2-Dichlorobenzene	0.86	5.2	Not Detected	Not Detected
1,4-Dichlorobenzene	0.86	5.2	Not Detected	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

			Amount
Compound	CAS Number	Match Quality	ppbv
Tetrafluoroethane	359-35-3	NA	Not Detected
Tetrafluoroethane	BLNK01	NA	Not Detected

UJ = Non-detected compound associated with low bias in the CCV

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	108	70-130	
Toluene-d8	101	70-130	
4-Bromofluorobenzene	84	70-130	

SAMPLE NAME: BBG-Office-9571

ID#: 0304003A-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	
	040110 Date of Collection: 3/29/03
Dil. Factor:	
	1.71 Date of Analysis: 4/1/03

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.86	2.2	Not Detected	Not Detected
Methylene Chloride	0.86	3.0	87	310
1,1-Dichloroethane	0.86	3.5	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.86	3.4	Not Detected	Not Detected
Chloroform	0.86	4.2	Not Detected	Not Detected
1,1,1-Trichloroethane	0.86	4.7	Not Detected	Not Detected
Benzene	0.86	2.8	0.86	2.8
1,2-Dichloroethane	0.86	3.5	Not Detected	Not Detected
Trichloroethene	0.86	4.7	Not Detected	Not Detected
Tetrachloroethene	0.86	5.9	Not Detected	Not Detected
Chlcrobenzene	0.86	4.0	0.86	4.0
alpha-Chlorotoluene	0.86	4.5	Not Detected U J	Not Detected U J
Acetone	3.4	8.2	110	260
Carbon Disulfide	3.4	11	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.4	14	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.4	10	21	62
Bromodichloromethane	3.4	23	Not Detected	Not Detected
4-Methyl-2-pentanone	3.4	14	5.4	22
Bromoform	3.4	36	Not Detected	Not Detected
tert-Butylbenzene	3.4	19	Not Detected	Not Detected
Naphthalene	17	91	Not Detected	Not Detected
1,2-Dichlorobenzene	0.86	5.2	Not Detected	Not Detected
1,4-Dichlorobenzene	0.86	5.2	Not Detected	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane	359-35-3	NA	Not Detected
Tetrafluoroethane	BLNK01	NA	Not Detected

UJ = Non-detected compound associated with low bias in the CCV

		Method Limits	
Surrogates	%Recovery		
1,2-Dichloroethane-d4	107	70-130	
Toluene-d8	102	70-130	
4-Bromofluorobenzene	92	70-130	

SAMPLE NAME: BBG-Intake-96105

ID#: 0304003A-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6040111	Date of Collection: 3/29/03
Dil. Factor:	The 14-61 1.58 and by 10 the 12 the	Date of Analysis: 4/1/03

Compound	Rɒt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.79	2.0	Not Detected	Not Detected
Methylene Chloride	0.79	2.8	Not Detected	Not Detected
1,1-Dichloroethane	0.79	3.2	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.79	3.2	Not Detected	Not Detected
Chloroform	0.79	3.9	Not Detected	Not Detected
1,1,1-Trichloroethane	0.79	4.4	Not Detected	Not Detected
Benzene	0.79	2.6	Not Detected	Not Detected
1,2-Dichloroethane	0.79	3.2	Not Detected	Not Detected
Trichloroethene	0.79	4.3	Not Detected	Not Detected
Tetrachloroethene	0.79	5.4	Not Detected	Not Detected
Chlorobenzene	0.79	3.7	Not Detected	Not Detected
alpha-Chlorotoluene	0.79	4.2	Not Detected U J	Not Detected U J
Acetone	3.2	7.6	Not Detected	Not Detected
Carbon Disulfide	3.2	10	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.2	13	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.2	9.5	9.8	30
Bromodichloromethane	3.2	22	Not Detected	Not Detected
4-Methyl-2-pentanone	3.2	13	Not Detected	Not Detected
Bromoform	3.2	33	Not Detected	Not Detected
tert-Butylbenzene	3.2	18	Not Detected	Not Detected
Naphthalene	16	84	Not Detected	Not Detected
1,2-Dichlorobenzene	0.79	4.8	Not Detected	Not Detected
1,4-Dichlorobenzene	0.79	4.8	Not Detected	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane	359-35-3	NA	Not Detected
Tetrafluoroethane	BLNK01	NA	Not Detected

UJ = Non-detected compound associated with low bias in the CCV

3,600 0 00000000000000000000000000000000		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	84	70-130

SAMPLE NAME: CCB-Office-TO1560

ID#: 0304003A-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Date of Collection: 3/29/03

Not Detected

Not Detected

Not Detected

Not Detected

7.7

Not Detected

49

Not Detected

Mathad

Not Detected

Not Detected

Not Detected

Not Detected

1.6

Not Detected

20

Not Detected

d040116

Dil. Factor:	2.74		Date of Analys	Date of Analysis: 4/1/03	
Compound	Rot. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)	
Vinyl Chloride	1.4	3.6	Not Detected	Not Detected	
Methylene Chloride	1.4	4.8	440	1600	
1,1-Dichloroethane	1.4	5.6	Not Detected	Not Detected	
cis-1,2-Dichloroethene	1.4	5.5	Not Detected	Not Detected	
Chloroform	1.4	6.8	Not Detected	Not Detected	
1.1.1-Trichloroethane	1.4	7.6	Not Detected	Not Detected	

4.4

5.6

7.5

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6.4

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13

17

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27

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1.4

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane	359-35-3	NA NA	Not Detected
Tetrafluoroethane	BLNK01	NA	Not Detected

Container Type: 6 Liter Summa Canister

Benzene

Acetone

Bromoform tert-Butylbenzene

Naphthalene

1,2-Dichloroethane

Tetrachloroethene

alpha-Chlorotoluene

Bromodichloromethane

4-Methyl-2-pentanone

1,2-Dichlorobenzene

1,4-Dichlorobenzene

2-Butanone (Methyl Ethyl Ketone)

Trichloroethene

Chlorobenzene

Carbon Disulfide trans-1,2-Dichloroethene

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	92	70-130

SAMPLE NAME: CCB-Intake-14883

ID#: 0304003A-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Date of Collection: 3/29/03

Date of Analysis: 4/1/03

d040112

3.2

3.2

3.2

3.2

3.2

3.2

16

0.79

0.79

Compound	Røt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.79	2.0	Not Detected	Not Detected
Methylene Chloride	0.79	2.8	3.1	11
1,1-Dichloroethane	0.79	3.2	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.79	3.2	Not Detected	Not Detected
Chloroform	0.79	3.9	Not Detected	Not Detected
1,1,1-Trichloroethane	0.79	4.4	Not Detected	Not Detected
Benzene	0.79	2.6	0.92	3.0
1,2-Dichloroethane	0.79	3.2	Not Detected	Not Detected
Trichloroethene	0.79	4.3	Not Detected	Not Detected
Tetrachloroethene	0.79	5.4	Not Detected	Not Detected
Chlorobenzene	0.79	3.7	1.0	4.7
alpha-Chlorotoluene	0.79	4.2	Not Detected	Not Detected
Acetone	3.2	7.6	3.4	8.3
Carbon Disulfide	3.2	10	Not Detected	Not Detected

13

9.5

22

13

33

18

84

4.8

4.8

Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane	359-35-3	NA	Not Detected
Tetrafluoroethane	BLNK01	NA	Not Detected

Container Type: 6 Liter Summa Canister

File Name:

Dil. Factor:

trans-1,2-Dichloroethene

Bromodichloromethane

4-Methyl-2-pentanone

1,4-Dichlorobenzene

tert-Butylbenzene

Bromoform

Naphthalene 1,2-Dichlorobenzene

2-Butanone (Methyl Ethyl Ketone)

•		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	92	70-130

SAMPLE NAME: BK-1st Fl. Office-24489

1D#: 0304003A-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Date of Collection: 3/29/03

Date of Analysis: 4/1/03

d040108

1.71

Compound	Røt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.86	2.2	Not Detected	Not Detected
Methylene Chloride	0.86	3.0	13	45
1,1-Dichloroethane	0.86	3.5	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.86	3.4	Not Detected 1	Not Detected
Chloroform	0.86	4.2	Not Detected	Not Detected
1,1,1-Trichloroethane	0.86	4.7	Not Detected	Not Detected
Benzene	0.86	2.8	Not Detected	Not Detected
1,2-Dichloroethane	0.86	3.5	Not Detected	Not Detected
Trichloroethene	0.86	4.7	Not Detected	Not Detected
Tetrachloroethene	0.86	5.9	Not Detected	Not Detected
Chlorobenzene	0.86	4.0	Not Detected	Not Detected
alpha-Chlorotoluene	0.86	4.5	Not Detected	Not Detected
Acetone	3.4	8.2	4.4	11
Carbon Disulfide	3.4	11	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.4	14	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.4	10	Not Detected	Not Detected
Bromodichloromethane	3.4	23	Not Detected	Not Detected
4-Methyl-2-pentanone	3.4	14	Not Detected	Not Detected
Bromoform	3.4	36	Not Detected	Not Detected
tert-Butylbenzene	3.4	19	Not Detected	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

91

5.2

5.2

Not Detected

Not Detected

Not Detected

Not Detected

Not Detected

Not Detected

17

0.86

0.86

Compound	CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane	359-35-3	NA	Not Detected
Tetrafluoroethane	BLNK01	NA	Not Detected

Container Type: 6 Liter Summa Canister

File Name:

Naphthalene

1,2-Dichlorobenzene

1,4-Dichlorobenzene

Dil. Factor:

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	91	70-130

SAMPLE NAME: BK-Intake-33584

ID#: 0304003A-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Dil. Factor: Date of Analysis: 4/1/03

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.79	2.0	Not Detected	Not Detected
Methylene Chloride	0.79	2.8	2.2	8.0
1,1-Dichloroethane	0.79	3.2	Not Detected	Not Detected
•	0.79	3.2	Not Detected	Not Detected
cis-1,2-Dichloroethene Chloroform	0.79	3.9	Not Detected	Not Detected
1,1,1-Trichloroethane	0.79	4.4	Not Detected	Not Detected
Benzene	0.79	2.6	Not Detected	Not Detected
1,2-Dichloroethane	0.79	3.2	Not Detected	Not Detected
Trichloroethene	0.79	4.3	Not Detected	Not Detected
Tetrachloroethene	0.79	5.4	Not Detected	Not Detected
Chlorobenzene	0.79	3.7	0.94	4.4
alpha-Chlorotoluene	0.79	4.2	Not Detected	Not Detected
Acetone	3.2	7.6	4.5	11
Carbon Disulfide	3.2	10	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.2	13	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.2	9.5	Not Detected	Not Detected
Bromodichloromethane	3.2	22	Not Detected	Not Detected
4-Methyl-2-pentanone	3.2	13	Not Detected	Not Detected
Bromoform	3.2	33	Not Detected	Not Detected
tert-Butylbenzene	3.2	18	Not Detected	Not Detected
Naphthalene	16	84	Not Detected	Not Detected
1,2-Dichlorobenzene	0.79	4.8	Not Detected	Not Detected
1,4-Dichlorobenzene	0.79	4.8	Not Detected	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane	359-35-3	NA	Not Detected
Tetrafluoroethane	BLNK01	NA	Not Detected

Container Type: 6 Liter Summa Canister

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	91	70-130

SAMPLE NAME: BK-Dist-TO1627

ID#: 0304003A-09A

File Name: Dil, Factor:	d040109 1.71		Date of Collec Date of Analys	the transfer of the proof of the second
Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.86	2.2	Not Detected	Not Detected
Methylene Chloride	0.86	3.0	24	86
1,1-Dichloroethane	0.86	3.5	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.86	3.4	Not Detected	Not Detected
Chloroform	0.86	4.2	Not Detected	Not Detected
1,1,1-Trichloroethane	0.86	4.7	Not Detected	Not Detected
Benzene	0.86	2.8	Not Detected	Not Detected
1,2-Dichloroethane	0.86	3.5	Not Detected	Not Detected
Trichloroethene	0.86	4.7	Not Detected	Not Detected
Tetrachloroethene	0.86	5.9	Not Detected	Not Detected
Chlorobenzene	0.86	4.0	Not Detected	Not Detected
alpha-Chlorotoluene	0.86	4.5	Not Detected	Not Detected
Acetone	3.4	8.2	4.0	9.7
Carbon Disulfide	3.4	11	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.4	14	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.4	10	Not Detected	Not Detected
Bromodichloromethane	3.4	23	Not Detected	Not Detected
4-Methyl-2-pentanone	3.4	14	Not Detected	Not Detected
Bromoform	3.4	36	Not Detected	Not Detected
tert-Butylbenzene	3.4	19	Not Detected	Not Detected
Naphthalene	17	91	Not Detected	Not Detected
1,2-Dichlorobenzene	0.86	5.2	Not Detected	Not Detected
1,4-Dichlorobenzene	0.86	5.2	Not Detected	Not Detected
	TENTATIVELY IDEN	TIFIED COMPOUNDS		
Compound		CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane		359-35-3	NA	Not Detected
Tetrafluoroethane		BLNK01	NA	Not Detected
Container Type: 6 Liter Summa Car	ister			
Surrogates		%Recovery		Method Limits
1,2-Dichloroethane-d4		98		70-130
Toluene-d8		99		70-130
4-Bromofluorobenzene		93		70-130

SAMPLE NAME: BK-Dist-Duplicate-1584

ID#: 0304003A-10A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: d040110 Date of Collect Dil. Factors 1.71 Date of Analysi	U.S. U.S. U.A.238
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Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.86	2.2	Not Detected	Not Detected
Methylene Chloride	0.86	3.0	18	62
1,1-Dichloroethane	0.86	3.5	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.86	3.4	Not Detected	Not Detected
Chloroform	0.86	4.2	Not Detected	Not Detected
1,1,1-Trichloroethane	0.86	4.7	Not Detected	Not Detected
Benzene	0.86	2.8	Not Detected	Not Detected
1,2-Dichloroethane	0.86	3.5	Not Detected	Not Detected
Trichloroethene	0.86	4.7	Not Detected	Not Detected
Tetrachloroethene	0.86	5.9	Not Detected	Not Detected
Chlorobenzene	0.86	4.0	Not Detected	Not Detected
alpha-Chlorotoluene	0.86	4.5	Not Detected	Not Detected
Acetone	3.4	8.2	4.1	9.8
Carbon Disulfide	3.4	11	Not Detected	Not Detected
trans-1,2-Dichloroethene	3.4	14	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.4	10	Not Detected	Not Detected
Bromodichloromethane	3.4	23	Not Detected	Not Detected
4-Methyl-2-pentanone	3.4	14	Not Detected	Not Detected
Bromoform	3.4	36	Not Detected	Not Detected
tert-Butylbenzene	3.4	19	Not Detected	Not Detected
Naphthalene	17	91	Not Detected	Not Detected
1,2-Dichlorobenzene	0.86	5.2	Not Detected	Not Detected
1,4-Dichlorobenzene	0.86	5.2	Not Detected	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
Tetrafluoroethane	359-35-3	NA	Not Detected
Tetrafluoroethane	BLNK01	NA	Not Detected

Container Type: 6 Liter Summa Canister

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	99	70-130	
Toluene-d8	98	70-130	
4-Bromofluorobenzene	91	70-130	

SAMPLE NAME: Lab Blank ID#: 0304003A-11A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

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File Name: Date of Collection: NA	. 5. (1) 58% - 1. 1
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- 보고 발표하다 등록했다면 보고 있다면 보고 있다면 사람들이 되었다. 그는 사람들이 보고 있는 것은 사람들이 되었다면 보고 있는 것이 되었다면 보고 있다면	- 11 + 658 - 41
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## 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	18/20

Compound	Rɒt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.50	1.3	Not Detected	Not Detected
Methylene Chloride	0.50	1.8	Not Detected	Not Detected
1,1-Dichloroethane	0.50	2.0	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.50	2.0	Not Detected	Not Detected
Chloroform	0.50	2.5	Not Detected	Not Detected
1,1,1-Trichloroethane	0.50	2.8	Not Detected	Not Detected
Benzene	0.50	1.6	Not Detected	Not Detected
1,2-Dichloroethane	0.50	2.0	Not Detected	Not Detected
Trichloroethene	0.50	2.7	Not Detected	Not Detected
Tetrachloroethene	0.50	3.4	Not Detected	Not Detected
Chlorobenzene	0.50	2.3	Not Detected	Not Detected
alpha-Chlorotoluene	0.50	2.6	Not Detected	Not Detected
Acetone	2.0	4.8	Not Detected	Not Detected
Carbon Disulfide	2.0	6.3	Not Detected	Not Detected
trans-1,2-Dichloroethene	2.0	8.0	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	6.0	Not Detected	Not Detected
Bromodichloromethane	2.0	14	Not Detected	Not Detected
4-Methyl-2-pentanone	2.0	8.3	Not Detected	Not Detected
Bromoform	2.0	21	Not Detected	Not Detected
tert-Butylbenzene	2.0	11	Not Detected	Not Detected
Naphthalene	10	53	Not Detected	Not Detected
1,2-Dichlorobenzene	0.50	3.0	Not Detected	Not Detected
1,4-Dichlorobenzene	0.50	3.0	Not Detected	Not Detected

Communer Type: 100 Hot/Applicable		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	98	70-130	
Toluene-d8	98	70-130	
4-Bromofluorobenzene	93	70-130	

SAMPLE NAME: Lab Blank ID#: 0304003A-11B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

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Dil. Factor:	Date of Analysis: 4/1/03

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Vinyl Chloride	0.50	1.3	Not Detected	Not Detected
Methylene Chloride	0.50	1.8	Not Detected	Not Detected
1,1-Dichloroethane	0.50	2.0	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.50	2.0	Not Detected	Not Detected
Chloroform	0.50	2.5	Not Detected	Not Detected
1,1,1-Trichloroethane	0.50	2.8	Not Detected	Not Detected
Benzene	0.50	1.6	Not Detected	Not Detected
1,2-Dichloroethane	0.50	2.0	Not Detected	Not Detected
Trichloroethene	0.50	2.7	Not Detected	Not Detected
Tetrachloroethene	0.50	3.4	Not Detected	Not Detected
Chlorobenzene	0.50	2.3	Not Detected	Not Detected
alpha-Chlorotoluene	0.50	2.6	Not Detected U J	Not Detected U J
Acetone	2.0	4.8	Not Detected	Not Detected
Carbon Disulfide	2.0	6.3	Not Detected	Not Detected
trans-1,2-Dichloroethene	2.0	8.0	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	6.0	Not Detected	Not Detected
Bromodichloromethane	2.0	14	Not Detected	Not Detected
4-Methyl-2-pentanone	2.0	8.3	Not Detected	Not Detected
Bromoform	2.0	21	Not Detected	Not Detected
tert-Butylbenzene	2.0	11	Not Detected	Not Detected
Naphthalene	10	53	Not Detected	Not Detected
1,2-Dichlorobenzene	0.50	3.0	Not Detected	Not Detected
1,4-Dichlorobenzene	0.50	3.0	Not Detected	Not Detected

UJ = Non-detected compound associated with low bias in the CCV

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	108	70-130	
Toluene-d8	99	70-130	
4-Bromofluorobenzene	83	70-130	

SAMPLE NAME: CCV

ID#: 0304003A-12A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

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Compound	%Recovery
Vinyl Chloride	85
Methylene Chloride	80
1,1-Dichloroethane	84
cis-1,2-Dichloroethene	85
Chloroform	85
1,1,1-Trichloroethane	89
Benzene	85
1,2-Dichloroethane	85
Trichloroethene	86
Tetrachloroethene	84
Chlorobenzene	84
alpha-Chlorotoluene	88
Acetone	90
Carbon Disulfide	88
trans-1,2-Dichloroethene	87
2-Butanone (Methyl Ethyl Ketone)	90
Bromodichloromethane	95
4-Methyl-2-pentanone	94
Bromoform	98
lert-Butylbenzene	110
Naphthalene	92
1,2-Dichlorobenzene	84
1,4-Dichlorobenzene	87

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	101	70-130	
Toluene-d8	101	70-130	
4-Bromofluorobenzene	98	70-130	

SAMPLE NAME: CCV

ID#: 0304003A-12B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

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File Name:	b040102
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Dil. Factor:	1.00 Date of Analysis: 4/1/03
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Compound	%Recovery
Vinyl Chloride	104
Methylene Chloride	108
1,1-Dichloroethane	114
cis-1,2-Dichloroethene	115
Chloroform	111
1,1,1-Trichloroethane	111
Benzene	108
1,2-Dichloroethane	121
Trichloroethene	114
Tetrachloroethene	118
Chlorobenzene	105
alpha-Chlorotoluene	61 Q
Acetone	94
Carbon Disulfide	81
trans-1,2-Dichloroethene	81
2-Butanone (Methyl Ethyl Ketone)	100
Bromodichloromethane	92
4-Methyl-2-pentanone	106
Bromoform	84
tert-Butylbenzene	77
Naphthalene	90
1,2-Dichlorobenzene	70
1,4-Dichlorobenzene	74

Q = Exceeds Quality Control limits.

.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	85	70-130

SAMPLE NAME: LCS

ID#: 0304003A-13A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

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The state of the s		Date of Analysis: 4/1/03
- 1 Photography - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -	그는 그 경에 되는 사람들은 사람들이 가장 그 살아 있다면 가장 그는 지원을 하는 것이 없어 들었다. 그 없는 사람들이 되었다면 그렇게 그렇게 되었다면 그렇게 그렇게 되었다면 그렇게 그렇게 되었다면 그렇게 그렇게 되었다면 그렇게 그렇게 그렇게 되었다면 그렇게	
In this provides the state of the second second to the control of the second		The state of the s

Compound	%Recovery
Vinyl Chloride	90
Methylene Chloride	78
1,1-Dichloroethane	74
cis-1,2-Dichloroethene	84
Chloroform	81
1,1,1-Trichloroethane	83
Benzen e	90
1,2-Dichloroethane	85
Trichloroethene	89
Tetrachloroethene	89
Chlorobenzene	85
alpha-Chlorotoluene	99
Acetone	84
Carbon Disulfide	85
trans-1,2-Dichloroethene	88
2-Butanone (Methyl Ethyl Ketone)	84
Bromodichloromethane	85
4-Methyl-2-pentanone	86
Bromoform	81
tert-Butylbenzene	Not Spiked
Naphthalene	Not Spiked
1,2-Dichlorobenzene	85
1,4-Dichlorobenzene	82

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	98	70-130

SAMPLE NAME: LCS

ID#: 0304003A-13B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

	the Wall of the State of Market and Control of the State	TO THE METERS OF THE PROPERTY
File Name:	b040104	Date of Collection: NA
Delega Sychight Marketty or training of the	이 유럽과 가라가 살아 있는 아버티를 보고 있었다는데 그렇게 하는데	
Dil. Factor:		Date of Analysis: 4/1/03
		Dute of Failuly 3131 47 1100

Compound	%Recovery
Vinyl Chloride	122
Methylene Chloride	109
1,1-Dichloroethane	104
cis-1,2-Dichloroethene	119
Chloroform	110
1,1,1-Trichloroethane	110
Berizene	117
1,2-Dichloroethane	126
Frichloroethene	122
letrachloroethene	129
Chlorobenzene	109
alpha-Chlorotoluene	68 Q
Acetone	88
Carbon Disulfide	80
rans-1,2-Dichloroethene	87
P-Butanone (Methyl Ethyl Ketone)	95
Bromodichloromethane	82
-Methyl-2-pentanone	96
Bromoform	70
ert-Butylbenzene	Not Spiked
Naphthalene	Not Spiked
1,2-Dichlorobenzene	71
,4-Dichlorobenzene	71

Q = Exceeds Quality Control limits.

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	86	70-130



CHAIN-OF-CUSTODY RECORD

Shipper Name

Lab Use : Only

Air Bill #

Opened By.

Temp. (°C)

Condition

Custody Seals Infact?

Sample Transportation Notice

Relinquishing eignature on this discurrent indicates that sample is being shipped in compliance FOLSOM, CA 95630-4719 with all applicable local, State, Federal national, and international laws, regulations and (916) 985-1000 FAX: (916) 985-1020 ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or stripping of these samples. Retriguishing signature also indicates agreement to held harmless, defend, and indemnify Air Tayles Limited agains; any claim, demand, or set on of any kind related to the collection, handling, or shipping of samples, D.O.T. Hotine (800) 467 4922

180 BLUE PAVINE ROAD SUITE B

		-				rage	
Contact Person Gary Rith Company T.R. Address 5. Water intercent Crossing Prone 860-378-62560 Collected By: Signature Dennis A	city WindSOT Sta		Project info: P.O. #		□ Norma	und Time: al Speci	nty
Lab Field Sample I.D.	Date & Time	Ana	alyses Requested	Rinish	Caniste Initial	r Pressure / Finat	Vacuum Faceict
OIA 882-Office - 9910 OIA 882-Intake - 9584 OIA 886-Office - 9571 OIA 886-Intake - 9610		TO15	13:36 13:30 13:16 13:21	21:58 21:53 21:39 21:34	38.0 30.0 30.0 38.0	6.0 11.0 7.0	6.5% 6.5% 6.5%
05A CCB - Office - 701560 COA CCB - Intoke - 14883 OTA BK-15+Fl. Office - 2418	9		13:08 12:39 12:08	21:16 21:11 20:16	28.5 29.5 27.5	7.0 6.5 5.1	6.5% 4.5% 6.5%
ODA BK- Intale-33584 OTA BK DIST-TO1627 NOR BK-DIST-Duplicate-188	 		12:30 12:19 12:20	20:55 20:32 20:37	29.0 39.0 30.0	5. 0 7. 0 8. 5	4.5° h 4.5° h 1.00° H
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Work Order #



Air Toxics Ltd. Introduces the Electronic Report

Thank you for choosing Air Toxics Ltd. To better serve our customers, we are providing your report by e-mail. This document is provided in Portable Document Format which can be viewed with Acrobat Reader by Adobe.

This electronic report includes the following:

- · Work order Summary;
- Laboratory Narrative;
- · Results; and
- Chain of Custody (copy).

AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0304039R1

Work Order Summary

CLIENT: Mr. Gary Ritter BILL TO

TRC Environmental Corporation

5 Waterside Crossing Windsor, CT 06095 BILL TO: Mr. Gary Ritter

TRC Environmental Corporation

5 Waterside Crossing Windsor, CT 06095

PHONE: 860-298-6300 P.O. #

FAX: PROJECT # 38182 Solutia/Sauget

DATE RECEIVED: 4/2/03 **CONTACT:** Betty Chu **DATE COMPLETED:** 4/14/03

DATE REISSUED: 4/15/01

FRACTION #	NAME	TEST
01A	SVP-1-SG-040103	Modified TO-13A/TIC
01AA	SVP-1-SG-040103 Duplicate	Modified TO-13A/TIC
02A	SVP-2-SG-040103	Modified TO-13A/TIC
03A	SVP-3-SG-040103	Modified TO-13A/TIC
04A	SVP-4-SG-040103	Modified TO-13A/TIC
05A	SVP-5-SG-040103	Modified TO-13A/TIC
06A	SVP-14-SG-040103	Modified TO-13A/TIC
07A	SVP-17-SG-040103	Modified TO-13A/TIC
08A	SVP-140-SG-040103	Modified TO-13A/TIC
09A	Background Air Sample 040103-AM	Modified TO-13A/TIC
10A	Background Air Sample 040103-PM	Modified TO-13A/TIC
11A	Trip Blank 040103	Modified TO-13A/TIC
12A	Lab Blank	Modified TO-13A/TIC
13A	LCS	Modified TO-13A/TIC

	Sinda d. Fruman		
CERTIFIED BY:	Control Color Color	DATE:	04/15/03
CERTIFIED DT.		Diffe.	

Laboratory Director

Certification numbers: AR DEQ, CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004 NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/02, Expiration date: 06/30/03

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE Modified TO-13A

TRC Environmental Corporation Workorder# 0304039R1

Eleven XAD VOST Tube samples were received on April 02, 2003. The laboratory performed the analysis via Modified EPA Method TO-13A using GC/MS in the full scan mode. The soxhlet extraction and extract concentration to 1.0mL were performed via modified method 3540. See the data sheets for the reporting limits for each compound. Duplicate extraction cannot be performed on PUF/XAD2 media, therefore duplicate results are derived from analyzing the extract twice.

Requirement	TO-13A	ATL Modifications
Extraction Solvent	Use of PUF only requires use of 10% ether in hexane; separate extraction of filter in DCM. Use of XAD only requires use of DCM; extract filter with XAD.	Use PUF/XAD-2 cartridge; extract cartridge + filter together in DCM.
Glassware Cleaning	Cleaning series consisting of rinsing glassware with last solvent, acetone, hexane, water/detergent, DI H2O, muffle furnace @400 deg for 4 hrs.	Pre-soak in a 5 % Chem-Solv solution at least once per week, a water/detergent wash, soaking in tap water for at least 1 hr, and a DI H2O rinse. Glassware is then set to dry or rinsed with Methanol. Glassware is pre-rinsed with DCM prior to use.
Extract Cleanup	Elute extract through silica gel prior to analysis.	No clean up used, experience shows that step does not improve method performance for typical air samples.
Surrogate Concentration	1.0 ug final concentration.	50 ug final concentration for full scan, 2.0 ug for SIM.
Standard Preparation	Standards prepared in Hexane.	Standards prepared in Methylene Chloride.
Surrogate Recovery Limit	60 - 120%	50-150% for (non-PAH) surrogates that are not included in TO-13A
Sampling Volume	TO-13	Sampling volume was supplied by the client. A sample volume of 1.0 m3 was assumed for all QC samples.

Receiving Notes

Samples were not wrapped in aluminum foil and therefore came in contact with plastic shipping bags. The client was notified via the Login email that contact with plastic may cause contamination unrelated to the actual sampling event. ATL proceeded with the analysis.

Analytical Notes

There were no analytical discrepancies.

Specific analytes that are requested by the client to be reported as tentatively identified compounds (TICs) are determined by searching for each compound's characteristic spectra. If no chromatographic peak

displaying the compound specific spectra exists, then the TIC is reported as not detected. Please note that the laboratory has not evaluated the stability of any heretofore tentatively identified compound in the vapor phase or for efficiency of recovery through the analytical system.

The client requested an abbreviated target analyte list. The associated LCS's were spiked with representative compounds as per the method.

THE WORKORDER WAS REISSUED ON 04/15/03 TO REPORT THE DUPLICATE ANALYSIS OF SAMPLE SVP-1-SG-040103 AND AMEND THE SURROGATE METHOD LIMITS FOR THE LCS.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

- E Exceeds instrument calibration range.
- Q Exceeds quality control limits.
- S Saturated peak.
- J Estimated value.
- B Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
- U Compound analyzed for but not detected above the reporting limit.
- N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

SAMPLE NAME: SVP-1-SG-040103

ID#: 0304039R1-01A

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name: k0 Dil. Factor:	40922 1.00	Date of Collect Date of Analys Date of Extrac	sis: 4/9/03
Compound	Rpt. Limit (ug)		Amount (ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TE	NTATIVELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected

Container Type: XAD Tube: VOST

		Method	
Surrogates	%Recovery	Limits	
2-Fluorophenol	86	50-150	
Phenol-d5	89	50-150	
Nitrobenzene-d5	84	50-150	
2-Fluorobiphenyl	83	60-120	
2,4,6-Tribromophenol	92	50-150	
Terphenyl-d14	91	60-120	

SAMPLE NAME: SVP-1-SG-040103 Duplicate

ID#: 0304039R1-01AA

File Name: k0409 Dil. Factor: 1.	23 00	Date of Collect Date of Analys Date of Extrac	sis: 4/9/03
Compound	Rpt. Limit (ug)		Amount (ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TENTA'	TVELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
			Method
Surrogates	%Recovery		Limits
2-Fluorophenol	86		50-150
Phenol-d5	91		50-150
Nitrobenzene-d5	84		50-150
2-Fluorobiphenyl	82		60-120
2,4,6-Tribromophenol	91		50-150
Terphenyl-d14	92		60-120

SAMPLE NAME: SVP-2-SG-040103

ID#: 0304039R1-02A

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name: k04092 Dil. Factor: 1.0		Date of Collect Date of Analys	sis: 4/9/03
Compound	Rpt. Limit (ug)	Date of Extrac	tion: 4/4/03 Amount (ug)
Phenol	5.0	 	Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TENTATI	VELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
Surrogates	%Recovery		Method Limits
2-Fluorophenol	72		50-150
Phenol-d5	79		50-150
Nitrobenzene-d5	70		50-150
2-Fluorobiphenyl	73		60-120
2,4,6-Tribromophenol	85		50-150

85

60-120

Terphenyl-d14

SAMPLE NAME: SVP-3-SG-040103

ID#: 0304039R1-03A

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name k04092 Dil. Factor: 1.0	전에 발생하는 경우 나는 이후 선택을 보고 있습니다.	Date of Collect Date of Analys Date of Extrac	sis: 4/9/03
Compound	Rpt. Limit (ug)		Amount (ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
ΤΕΝΤΑΤΙ	VELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
Surrogates	%Recovery		Method Limits
2-Fluorophenol	 89		50-150
Phenol-d5	96		50 -150
Nitrobenzene-d5	87		50-150

2-Fluorobiphenyl

Terphenyl-d14

2,4,6-Tribromophenol

83

97 96 60-120

50-150

60-120

SAMPLE NAME: SVP-4-SG-040103

ID#: 0304039R1-04A

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name: k040920	회 경인원화관사 시네이 소전 회원 경기 경기 사용자	Date of Collect Date of Analys Date of Extrac	sis: 4/10/03
Compound	Rpt. Limit (ug)		Amount (ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TENTATI	VELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
Surrogates	%Recovery		Method Limits
2-Fluorophenol	82		50-150
Phenol-d5	87		50-150

Nitrobenzene-d5

2-Fluorobiphenyl 2,4,6-Tribromophenol

Terphenyl-d14

78

79

85

88

50-150

60-120

50-150

60-120

SAMPLE NAME: SVP-5-SG-040103

ID#: 0304039R1-05A

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name: Dil. Factor:	k040927 1.00	Date of Collection: 4/1/03 Date of Analysis: 4/10/03
		Date of Extraction: 4/4/03

	Rpt. Limit	Amount
Compound	(ug)	(ug)
Phenol	5.0	Not Detected
2-Chlorophenol	5.0	Not Detected
Nitrobenzene	1.0	Not Detected
2,4-Dichlorophenol	5.0	Not Detected
2,4,5-Trichlorophenol	5.0	Not Detected
2,4,6-Trichlorophenol	5.0	Not Detected
4-Chloroaniline	10	Not Detected
Pentachlorophenol	20	Not Detected
Aniline	1.0	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected

Container Type: XAD Tube: VOST

••		Method	
Surrogates	%Recovery	Limits	
2-Fluorophenol	88	50-150	
Phenol-d5	93	50-150	
Nitrobenzene-d5	88	50-150	
2-Fluorobiphenyl	87	60-120	
2,4,6-Tribromophenol	95	50-150	
Terphenyl-d14	96	60-120	

SAMPLE NAME: SVP-14-SG-040103

ID#: 0304039R1-06A

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name: Dil. Factor:	1.00 Dat	te of Collection: 4/1/03 te of Analysis: 4/10/03 te of Extraction: 4/4/03
_	Rpt. Limit	Amount
Compound	(ug)	(ug)
Phenol	5.0	Not Detected
2-Chlorophenol	5.0	Not Detected

5.0	Not Detected
5.0	Not Detected
5.0	Not Detected
10	Not Detected
20	Not Detected
1.0	8.6

Not Detected

1.0

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ug)	_
4-Nitrochlorobenzene	100-00-5	NA	Not Detected	

Container Type: XAD Tube: VOST

Nitrobenzene
2,4-Dichlorophenol
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
4-Chloroaniline
Pentachlorophenol

Aniline

Surrogates	%Recovery	Method Limits
2-Fluorophenol	104	50-150
Phenol-d5	97	50-150
Nitrobenzene-d5	96	50 -1 50
2-Fluorobiphenyl	92	60-120
2,4,6-Tribromophenol	94	50-150
Terphenyl-d14	99	60-120

SAMPLE NAME: SVP-17-SG-040103

ID#: 0304039R1-07A

File Name: k040929r* Dil. Factor: 1.00	ATT 나는 일이 있다. 소리 교육인 및 그림이 하고 생각수 ##특별이 하고 생각	Date of Collect Date of Analys Date of Extrac	sis: 4/10/03
Compound	Rpt. Limit (ug)		Amount (ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TENTATI	VELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
Surrogates	%Recovery		Method Limits
2-Fluorophenol	70		50-150
Phenol-d5	76		50-150
Nitrobenzene-d5	68		50-150
2-Fluorobiphenyl	71		60-120
2,4,6-Tribromophenol	77		50-150
Terphenyl-d14	82		60-120

SAMPLE NAME: SVP-140-SG-040103

ID#: 0304039R1-08A

File Name: k040930 Dll. Factor: 1.00		Date of Collect Date of Analys Date of Extrac	sis: 4/10/03
	Rpt. Limit		Amount
Cornpound	(ug)		(ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		6.4
TENTATI	VELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	· NA	Not Detected
Container Type: XAD Tube: VOST			
			Method
Surrogates	%Recovery		Limits
2-Fluorophenol	103		50-150
Phenol-d5	10 1		50-150
Nitrobenzene-d5	98		50-150
2-Fluorobiphenyl	91		60-120
2,4,6-Tribromophenol	104		50-150
Terphenyl-d14	100	***************************************	60-120

SAMPLE NAME: Background Air Sample 040103-AM

ID#: 0304039R1-09A

File Name: k040931 DII. Factor: 1.00	(BOSE (1807) 1867 - PEN HOLD HOLD HOLD HOLD HOLD HOLD HOLD HOLD	Date of Collect Date of Analys Date of Extrac	sis: 4/10/03
	Rpt. Limit		Amount
Cornpound	(ug)		(ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TENTATIV	/ELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
			Method
Surrogates	%Recovery		Limits
2-Fluorophenol	85		50-150
Phenol-d5	93		50-150
Nitrobenzene-d5	86		50-150
2-Fluorobiphenyl	84		60-120
2,4,6-Tribromophenol	95		50-150
Terphenyl-d14	91		60-120

SAMPLE NAME: Background Air Sample 040103-PM

ID#: 0304039R1-10A

File Name: k04093: DII. Factor: 1.00		Date of Collect Date of Analys Date of Extrac	sis: 4/10/03
	Rpt. Limit		Amount
Compound	(ug)		(ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TENTATI	VELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
			Method
Surrogates	%Recovery	·	Limits
2-Fluorophenol	74		50-150
Phenol-d5	80		50-150
Nitrobenzene-d5	75		50-150
2-Fluorobiphenyl	74		60-120
2,4,6-Tribromophenol	81		50-150
Terphenyl-d14	84		60-120

SAMPLE NAME: Trip Blank 040103

ID#: 0304039R1-11A

File Name: k041004 DII. Factor: 1.00		Date of Collect Date of Analys Date of Extrac	sis: 4/10/03
Compound	Rpt. Limit		Amount
Phenol	(ug) 5.0		(ug) Not Detected
	5.0		Not Detected
2-Chlorophenol Nitrobenzene	1.0		Not Detected
	5.0		Not Detected
2,4-Dichlorophenol 2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TENTATIV	/ELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
Surrogates	%Recovery		Method Limits
2-Fluorophenol	83		50-150
Phenol-d5	87		50-150
Nitrobenzene-d5	83		50-150
2-Fluorobiphenyl	80		60-120
2,4,6-Tribromophenol	86		50-150
Terphenyl-d14	92		60-120

SAMPLE NAME: Lab Blank

ID#: 0304039R1-12A

File Name: k04092 DII. Factor: 1.0	지하는 이 이를 가장하는 것이 없는 것이 없는 것이다.	Date of Collect Date of Analys Date of Extrac	is: 4/9/03
Compound	Rpt. Limit (ug)	· · · · · · · · · · · · · · · · · · ·	Amount (ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
ТЕЛТАТІ	VELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected
Container Type: NA - Not Applicable			
Surrogates	%Recovery		Method Limits
2-Fluorophenol	74		50-150
Phenol-d5	79		50-150
Nitrobenzene-d5	75		50-150
2-Fluorobiphenyl	71		60-120
2,4,6-Tribromophenol	81		50-150
Terphenyl-d14	82		60-120

SAMPLE NAME: LCS

ID#: 0304039R1-13A

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name: Dil, Factor:	k040921 Date of Collection: NA 1.00 Date of Analysis: 4/9/03 Date of Extraction: 4/4/03
	等于,是《美国·文学》(1997)(1997)(1998)(1997)(1997)(1997)(1997)(1997)(1997)(1997)(1997)(1997)(1997)(1997)(1997)(1997)(19

Compound	%Recovery
Phenol	64
2-Chlorophenol	66
1,4-Dichlorobenzene	64
N-Nitroso-di-n-propylamine	72
1,2,4-Trichlorobenzene	67
4-Chloro-3-methylphenol	76
Acenaphthene	68
4-Nitrophenol	61
2,4-Dinitrotoluene	68
Pentachlorophenol	61
Pyrene	70

Surrogates	%Recovery	Method Limits
2-Fluorophenol	60	50-150
Phenol-d5	63	50-150
Nitrobenzene-d5	66	50-150
2-Fluorobiphenyl	66	60-120
2,4,6-Tribromophenol	79	50-150
Terphenyl-d14	75	60-120



CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice

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180 BLUE RAVINE ROAD, SUITE B

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						raye .	<u></u> 01
Contact Person MINE SAISCA Company TRC ENARCHMENTAL Address 5 WATERSIDE CROSSING City LONDSOR State CE Zip CUCR5 Phone (900) 298-6239 FAX (800) 298-6399 Collected By: Signature (2011) LULIMAN				Project info: P.O. # Project # 25162 Project Name Muha Must	Turn Around Time: Norma Rush SEE NOTE Specry		
Lab Field Sample I.D. Date & Time Anal			Canister Pressure / Vacuum ses Requested brahm Start / finish Smith man afficient afficient				
0/17 xxe-1-56-040103	41/03	1604	10-12	150,4/150,7	13-19	1604	135
02A: 341-2-36-046103		1350	70-13	150,5 × 153 9	//35	1350	1135
03/4 ENP 2-56-040103	4/1/03	1461	70-13	150.0 - 157.7	1146	1401	4/35 m
0477 SV7-4-56-046103		1-130	70-13	149.2-155.9	1145	14 00	135
05 H. SVP-5-56-0-10103	1111	11411	10-13	149.50 151.2	0926	1141	135
TGA: Syx-14-56-040103	4/1 03	1349	70 - 13	75,29-35,447	0919	1379	2/0
074 18VF-17-Sh-040103		1207	TO-12	149.10 181.9	MSZ	1257	135
08 PT SVP-140-SG-CHOLOS	14/1/03	1249	10.13	75,090 76.20	6919	1349	2570
169 A Parkarand augunt opins - AM	1 2.1	1124	170-13	149, 2 - 155, 7	0409	1124	135
10H Parkaram Riv Commits CHEHS-PM	1 7 1	1501	10-13	149.10 151.9	1246	1501	135
Herocond By (Signatura) Cota fine packed By (Signatura) Date Time (42/03 Notes: Half (All of 4/163 1445 H455 H455 H455 H455 Half Date Time Herocond By (Signatura) Date Time (All of 147) on analysis Herocond By (Signatura) Date Time Herocond By (Signatura) Date Time (All of 147) on analysis Half (All of 147						ĺæn	
Shipper Name Air Bill Dened By: Terrip. (*C) Condition Custody. Seas Intact? Wark Orders 9 Use Fex 8 1831248869595 54 54 500 000 None							



CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice

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180 BLUE RAVINE ROAD, SUITE B.

Page 2 of 2

Contact Person Milke Suisca Company TRC Environmental Address 5 Waterside Crossing City Windsin State CT Zio 66095 Phone (860) 298-6234 FAX (860) 298-6399 Collected By: Sgrater Latt (aunual				Project info: P.O. # Project # 36/82 Project Name Stutis Suisst	Turn Around Time: Normal Normal Schooly		
Láb in	Field Sample I.D.	Date & Time	Analy	ses Requested	Caniste:	Pressure /	Vacuum Récelpt
	Top Barr C40103	4/1/03 - 14/15		valytilist presumbly stubenist d			
Finguished II.	r (Signature) Date/Time # (Signature) Date/Time # (Signature) Date/Time	Received By: (Signature) Date Realized By: (Signature) Date	Ame 45100 Ame 7/8	Notes: 48 hr TAT on arralys Sandard TAT on vagor data validation pack	15 t Linclin 440 .	de.	
Lab Use Only	The state of the same of the s	Bill * Opened B 36 313 75	(Font) (°C) (°C)	Condition Custody Seats (Yes) No	Intact?.	Work Or	(f ² 3 9



Air Toxics Ltd. Introduces the Electronic Report

Thank you for choosing Air Toxics Ltd. To better serve our customers, we are providing your report by e-mail. This document is provided in Portable Document Format which can be viewed with Acrobat Reader by Adobe.

This electronic report includes the following:

- Work order Summary;
- · Laboratory Narrative;
- · Results; and
- Chain of Custody (copy).



AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0304006

Work Order Summary

CLIENT: Mr. Gary Ritter BILL TO: Mr. Gary Ritter

TRC Environmental Corporation TRC Environmental Corporation

5 Waterside Crossing
Windsor, CT 06095

5 Waterside Crossing
Windsor, CT 06095

PHONE: 860-298-6300 P.O. #

FAX: PROJECT# 38182 Solutia/Sauget

DATE RECEIVED: 4/1/03 CONTACT: Betty Chu
DATE COMPLETED: 4/14/03

FRACTION#	NAME	<u>TEST</u>
01A	SVP-16-SG-033103	Modified TO-13A/TIC
02A	SVP-12-SG-033103	Modified TO-13A/TIC
03A	SVP-15-SG-033103	Modified TO-13A/TIC
04A	SVP-8-SG-033103	Modified TO-13A/TIC
05A	SVP-11-SG-033103	Modified TO-13A/TIC
06A	SVP-10-SG-033103	Modified TO-13A/TIC
07A	SVP-100-SG-033103	Modified TO-13A/TIC
08A	SVP-6-SG-033103	Modified TO-13A/TIC
09A	SVP-9-SG-033103	Modified TO-13A/TIC
09AA	SVP-9-SG-033103 Duplicate	Modified TO-13A/TIC
10A	Background Sample 033103	Modified TO-13A/TIC
11A	BBZ-Office-01	Modified TO-13A/TIC
12A	BBZ-Intake-02	Modified TO-13A/TIC
13A	BBG-Office-03	Modified TO-13A/TIC
14A	BBG-Intake-04	Modified TO-13A/TIC
15A	CCB-Office-05	Modified TO-13A/TIC
16A	CCB-Intake-06	Modified TO-13A/TIC
17A	BK-1st Fl. Office-07	Modified TO-13A/TIC
18A	BK-Intake-08	Modified TO-13A/TIC
18AA	BK-Intake-08 Duplicate	Modified TO-13A/TIC

Continued on next page

AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0304006

Work Order Summary

CLIENT:

Mr. Gary Ritter

BILL TO:

Mr. Gary Ritter

TRC Environmental Corporation

-

TRC Environmental Corporation

5 Waterside Crossing Windsor, CT 06095 5 Waterside Crossing Windsor, CT 06095

PHONE:

860-298-6300

P.O. #

FAX:

PROJECT #

38182 Solutia/Sauget

DATE RECEIVED:
DATE COMPLETED:

4/1/03 4/14/03

CONTACT:

Betty Chu

FRACTION #	NAME	TEST
19A	BK-Dist-09	Modified TO-13A/TIC
20A	BK-Dist-Duplicate-10	Modified TO-13A/TIC
21A	Blank-11	Modified TO-13A/TIC
22A	Trip Blank 033103	Modified TO-13A/TIC
23A	Lab Blank	Modified TO-13A/TIC
23B	Lab Blank	Modified TO-13A/TIC
24A	LCS	Modified TO-13A/TIC
24B	LCS	Modified TO-13A/TIC

CERTIFIED BY:

Sinda d. Fruman

DATE: $\frac{04/14/03}{}$

Laboratory Director

Certfication numbers: AR DEQ, CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004 NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/02, Expiration date: 06/30/03

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE Modified TO-13

TRC Environmental Corporation Workorder# 0304006

Twenty Two VOST XAD Tube samples were received on April 01, 2003. The laboratory performed the analysis via Modified EPA Method TO-13 using GC/MS in the full scan mode. The soxhlet extraction and extract concentration to 1.0mL were performed via modified method 3540. See the data sheets for the reporting limits for each compound. Duplicate extraction cannot be performed on VOST XAD Tube media, therefore duplicate results are derived from analyzing the extract twice.

Requirement	TO-13A	ATL Modifications		
Extraction Solvent	Use of PUF only requires use of 10% ether in hexane; separate extraction of filter in DCM. Use of XAD only requires use of DCM; extract filter with XAD.	Use PUF/XAD-2 cartridge; extract cartridge + filter together in DCM.		
Glassware Cleaning	Cleaning series consisting of rinsing glassware with last solvent, acetone, hexane, water/detergent, DI H2O, muffle furnace @400 deg for 4 hrs.	Pre-soak in a 5 % Chem-Solv solution at least once per week, a water/detergent wash, soaking in tap water for at least 1 hr, and a DI H2O rinse. Glassware is then set to dry or rinsed with Methanol. Glassware is pre-rinsed with DCM prior to use.		
Extract Cleanup	Elute extract through silica gel prior to analysis.	No clean up used, experience shows that step does not improve method performance for typical air samples.		
Surrogate Concentration	1.0 ug final concentration.	50 ug final concentration for full scan, 2.0 ug for SIM.		
Standard Preparation	Standards prepared in Hexanc.	Standards prepared in Methylene Chloride.		
Surrogate Recovery Limit	60 - 120%	50-150% for (non-PAH) surrogates that are not included in TO-13A		
Sampling Volume	TO-13	Sampling volume was supplied by the client. A sample volume of 1.0 m3 was assumed for all QC samples.		

Receiving Notes

The chain of custody information for samples SVP-11-033103 and SVP-6-033103 did not match the entries on the sample tags. The discrepancy was noted in the Login email and the information on the chain of custody was used to process and report the samples.

VOST XAD Tube samples were not wrapped in aluminum foil and therefore came in contact with plastic shipping bags. The client was notified via the Login email that contact with plastic may cause contamination unrelated to the actual sampling event. ATL proceeded with the analysis.

A Temperature Blank was not included with the shipment. Temperature was measured on a representative sample and was not within 4 degrees C. +/- 2 degrees. Coolant in the form of ice/blue ice was not present.

The client was notified via the login fax/email and the analysis proceeded.

Analytical Notes

Specific analytes that are requested by the client to be reported as tentatively identified compounds (TICs) are determined by searching for each compound's characteristic spectra. If no chromatographic peak displaying the compound specific spectra exists, then the TIC is reported as not detected. Please note that the laboratory has not evaluated the stability of any heretofore tentatively identified compound in the vapor phase or for efficiency of recovery through the analytical system.

The recovery of internal standard 1,4-Dichlorobenzene-d4 in samples SVP-10-SG-033103 and SVP-100-SG-033103 was outside control limits due to matrix interferences. Dilution of the samples was required to meet method acceptance limits.

The client requested an abbreviated target analyte list. The associated LCS's were spiked with representative compounds as per the method.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

- E Exceeds instrument calibration range.
- Q Exceeds quality control limits.
- S Saturated peak.
- J Estimated value.
- B Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
- U Compound analyzed for but not detected above the reporting limit.
- N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

SAMPLE NAME: SVP-16-SG-033103

ID#: 0304006-01A

File Name: y040400 Dil. Factor: 1.00	A SERVICE OF THE CONTRACT OF T	Date of Collect Date of Analys Date of Extrac	sis: 4/4/03
	Rpt. Limit		Amount
Cornpound	(ug)		(ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TENTATI	VELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
			Method
Surrogates	%Recovery		Limits
2-Fluorophenol	73		50-150
Phenol-d5	78		50-150
Nitrobenzene-d5	74		50-150
2-Fluorobiphenyl	72		60-120
2,4,6-Tribromophenol	80		50-150
Terphenyl-d14	80		60-120

SAMPLE NAME: SVP-12-SG-033103

ID#: 0304006-02A

File Name: y040407 Dil, Factor: 1.00		Date of Collect Date of Analys Date of Extrac	is: 4/4/03
	Rpt. Limit		Amount
Compound	(ug)		(ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TENTATIV	ELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
			Method
Surrogates	%Recovery		Limits
2-Fluorophenol	76		50-150
Phenol-d5	81		50-150
Nitrobenzene-d5	76		50-150
2-Fluorobiphenyl	77		60-120
2,4,6-Tribromophenol	81	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	50 -1 50
Terphenyl-d14	78		60-120

SAMPLE NAME: SVP-15-SG-033103

1D#: 0304006-03A

File Name: y040400 Dil. Factor: 1.00	얼마나 그리다 그렇게 살아 바다 나를 다음 맛있는 모든 다.	Date of Collect Date of Analys Date of Extrac	sis: 4/4/03
	Rpt. Limit		Amount
Compound	(ug)		(ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TENTATI	VELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
			Method
Surrogates	%Recovery		Limits
2-Fluorophenol	76		50-150
Phenol-d5	79		50-150
Nitrobenzene-d5	74		50-150
2-Fluorobiphenyl	73		60-120
2,4,6-Tribromophenol	79		50-150
Terphenyl-d14	83		60-120

SAMPLE NAME: SVP-8-SG-033103

ID#: 0304006-04A

File Name: y040409 Dll. Factor: 1.00	그 등 사는 그는 그들 때문을 하지 않는 사람들이 가득했는 그 모든	Date of Collect Date of Analys Date of Extrac	is: 4/4/03
C	Rpt. Limit		Amount
Cornpound	(ug)		(ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TENTATIV	ELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
			Method
Surrogates	%Recovery		Limits
2-Fluorophenol	79		50-150
Phenol-d5	83		50-150
Nitrobenzene-d5	78		50-150
2-Fluorobiphenyl	76		60-120
2,4,6-Tribromophenol	77		50-150
Terphenyl-d14	77		60-120

SAMPLE NAME: SVP-11-SG-033103

ID#: 0304006-05A

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

Rpt. Limit (ug) 5.0 5.0 1.0 5.0 5.0		Amount (ug) Not Detected Not Detected Not Detected Not Detected Not Detected Not Detected
5.0 5.0 1.0 5.0 5.0 5.0		Not Detected Not Detected Not Detected Not Detected Not Detected
5.0 1.0 5.0 5.0 5.0		Not Detected Not Detected Not Detected Not Detected
1.0 5.0 5.0 5.0		Not Detected Not Detected Not Detected
5.0 5.0 5.0		Not Detected Not Detected
5.0		
		Not Detected
40		
10		Not Detected
20		Not Detected
1.0		Not Detected
IED COMPOUNDS		
CAS Number	Match Quality	Amount (ug)
100-00-5	NA	Not Detected
1	1.0 ED COMPOUNDS CAS Number	1.0 ED COMPOUNDS CAS Number Match Quality

%Recovery

81

86

79

78

87

85

Limits

50-150

50-150

50-150

60-120

50-150

60-120

Surrogates

2-Fluorophenol Phenol-d5

Nitrobenzene-d5

2-Fluorobiphenyl

Terphenyl-d14

2,4,6-Tribromophenol

SAMPLE NAME: SVP-10-SG-033103

ID#: 0304006-06A

File Name: Dil. Factor:	y040710 2:00	Date of Collect Date of Analys Date of Extrac	is: 4/7/03
Compound	Rpt. Limit (ug)		Amount (ug)
Phenol	10		Not Detected
, ,,,,,,,,	10		Not Detected
2-Chlorophenol	2.0		Not Detected
Nitrobenzene	10		Not Detected
2,4-Dichlorophenol	10		Not Detected
2,4,5-Trichlorophenol			Not Detected
2,4,6-Trichlorophenol 4-Chloroaniline	10		Not Detected Not Detected
	20 40		Not Detected Not Detected
Pentachlorophenol Aniline	2.0		Not Detected
Compound	TENTATIVELY IDENTIFIED COMPOUNDS CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
			Method
Surrogates	%Recovery		Limits
2-Fluorophenol	59		50-150
Phenol-d5	63		50-150
Nitrobenzene-d5	83		50-150
2-Fluorobiphenyl	86		60-120
2,4,6-Tribromophenol	94		50-150
Terphenyl-d14	96		60-120

SAMPLE NAME: SVP-100-SG-033103

ID#: 0304006-07A

File Name: y040711 Dil. Factor: 2.00	마음이 나타지 않는데 하나 하나 가게 되었다.	Date of Collect Date of Analys Date of Extrac	sis: 4/7/03
	Rpt. Limit		Amount
Compound	(ug)		(ug)
Phenol	10		Not Detected
2-Chlorophenol	10		Not Detected
Nitrobenzene	2.0		Not Detected
2,4-Dichlorophenol	10		Not Detected
2,4,5-Trichlorophenol	10		Not Detected
2,4,6-Trichlorophenol	10		Not Detected
4-Chloroaniline	20		Not Detected
Pentachlorophenol	40		Not Detected
Aniline	2.0		Not Detected
TENTATIV	VELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
			Method
Surrogates	%Recovery		Limits
2-Fluorophenol	55		50 -1 50
Phenol-d5	60		50-150
Nitrobenzene-d5	76		50-150
2-Fluorobiphenyl	83		60-120
2,4,6-Tribromophenol	87		50-150
Terphenyl-d14	97		60-120

SAMPLE NAME: SVP-6-SG-033103

ID#: 0304006-08A

File Name: y04041 Dil, Factor: 1.0		Date of Collect Date of Analys Date of Extrac	sis: 4/4/03
	Rpt. Limit		Amount
Compound	(ug)		(ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TENTATI	VELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
			Method
Surrogates	%Recovery	· · · · · · · · · · · · · · · · · · ·	Limits
2-Fluorophenol	70		50-150
Phenol-d5	76		50-150
Nitrobenzene-d5	69		50-150
2-Fluorobiphenyl	71		60-120
2,4,6-Tribromophenol	80		50-150
Terphenyl-d14	81		60-120

SAMPLE NAME: SVP-9-SG-033103

ID#: 0304006-09A

MODITION	EI A METHOD TO-13A GC/MS FUL			
File Name: y040414 Date of Collection: 3/31/03 Dil. Factor: 1.00 Date of Analysis: 4/4/03 Date of Extraction: 4/1/03				
	Rpt. Limit		Amount	
Cornpound	(ug)		(ug)	
Phenol	5.0		Not Detected	
2-Chlorophenol	5.0		Not Detected	
Nitrobenzene	1.0		Not Detected	
2,4-Dichlorophenol	5.0		Not Detected	
2,4,5-Trichlorophenol	5.0		Not Detected	
2,4,6-Trichlorophenol	5.0		Not Detected	
4-Chloroaniline	10		Not Detected	
Pentachlorophenol	20		Not Detected	
Aniline	1.0		Not Detected	
TEN	TATIVELY IDENTIFIED COMPOUNDS			
Cornpound	CAS Number	Match Quality	Amount (ug)	
4-Nitrochlorobenzene	100-00-5	NA NA	Not Detected	
Container Type: XAD Tube: VOST				
ochiamor Typo: 70 to Tabo: 1001			Method	
Surrogates	%Recovery		Limits	
2-Fluorophenol	80		50-150	
Phenol-d5	83		50-150	
Nitrobenzene-d5	74		50-150	
2-Fluorobiphenyl	77		60-120	
2,4,6-Tribromophenol	88		50-150	
Terphenyl-d14	85		60-120	

SAMPLE NAME: SVP-9-SG-033103 Duplicate

ID#: 0304006-09AA

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name: y040415 Dil, Factor: 1.00	사용하는 사용 등 경험, 12년 등 등도 되고 있다. [10] 등 전기 :	Date of Collect Date of Analys Date of Extrac	sis: 4/5/03
Compound	Rpt. Limit (ug)		Amount (ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TENTATIV	ELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-N trochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
Surrogates	%Recovery		Method Limits
2-Fluorophenol	77		50-150
Phenol-d5	82		50-150
Nitrobenzene-d5	76		50-150
2-Fluorobiphenyl	76		60-120
2,4,6-Tribromophenol	91		50-150

85

60-120

Terphenyl-d14

SAMPLE NAME: Background Sample 033103

ID#: 0304006-10A

File Name: y040410 Dil. Factor: 1.00		Date of Collec Date of Analys Date of Extrac	sis: <i>4</i> /5/03
	Rpt. Limit		Amount
Compound	(ug)		(ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TENTATI	VELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
			Method
Surrogates	%Recovery		Limits
2-Fluorophenol	66		50-150
Phenol-d5	69		50-150
Nitrobenzene-d5	61		50-150
2-Fluorobiphenyl	65		60-120
2,4,6-Tribromophenol	72		50-150
Terphenyl-d14	70		60-120

SAMPLE NAME: BBZ-Office-01

ID#: 0304006-11A

File Name: y040417 Dil, Factor: 1.00	그 성도 그렇게 하다 하나 하는 사람들은 사용하다	Date of Collec Date of Analys Date of Extrac	sis: 4/5/03
	Rpt. Limit		Amount
Compound	(ug)		(ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TENTATI	VELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
			Method
Surrogates	%Recovery		Limits
2-Fluorophenol	71		50-150
Phenol-d5	75		50-150
Nitrobenzene-d5	69		50-150
2-Fluorobiphenyl	71		60-120
2,4,6-Tribromophenol	82		50-150
Terphenyl-d14	79		60-120

SAMPLE NAME: BBZ-Intake-02

ID#: 0304006-12A

File Name: y04071 Dil. Factor: 1.0		Date of Collect Date of Analys Date of Extrac	is: 4/7/03
Co	Rpt. Limit		Amount
Cornpound	(ug)		(ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pertachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TENTATI	IVELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochforobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
			Method
Surrogates	%Recovery		Limits
2-Fluorophenol	82		50-150
Phenol-d5	87		50-150
Nitrobenzene-d5	81		50-150
2-Fluorobiphenyl	80		60-120
2,4,6-Tribromophenol	98		50-150
Terphenyl-d14	91		60-120

SAMPLE NAME: BBG-Office-03

ID#: 0304006-13A

File Name: y040718 DII. Factor: 1.00	最によりは強さな。 さい こうじょう こうしょ 大田 大田 大田 大田 マンド・コー	Date of Collect Date of Analys Date of Extrac	sis: 4/7/03
	Rpt. Limit		Amount
Compound	(ug)		(ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TENTATI	VELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
			Method
Surrogates	%Recovery		Limits
2-Fluorophenol	84		50-150
Phenol-d5	89		50-150
Nitrobenzene-d5	85		50-150
2-Fluorobiphenyl	85		60-120
2,4,6-Tribromophenol	101		50-150
Terphenyl-d14	90		60-120

SAMPLE NAME: BBG-Intake-04

ID#: 0304006-14A

File Name: y040719 Dil. Factor: 1,00		Date of Collect Date of Analys Date of Extrac	sis: 4/7/03
Compound	Rpt. Limit (ug)		Amount (ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Peritachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TENTATIVI	ELY IDENTIFIED COMPOUNDS		
Cornpound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
Surrogates	%Recovery		Method Limits
2-Fluorophenol	66		50-150
Phenol-d5	70		50-150
Nitrobenzene-d5	65		50-150
2-Fluorobiphenyl	68		60-120
2,4,6-Tribromophenol	90		50-150
Terphenyl-d14	87		60-120

SAMPLE NAME: CCB-Office-05

ID#: 0304006-15A

File Name: y04072 Dll. Factor: 1.0	그는 그는 그리는 이번 이번 중요한 사람들이 교육적을 되고 있다.	Date of Collect Date of Analys Date of Extrac	is: 4/7/03
Compand	Rpt. Limit		Amount
Compound	(ug)		(ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0 IVELY IDENTIFIED COMPOUNDS		Not Detected
Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
			Method
Surrogates	%Recovery		Limits
2-Fluorophenol	82		50-150
Phenol-d5	85		50-150
Nitrobenzene-d5	80		50-150
2-Fluorobiphenyl	81		60-120
2,4,6-Tribromophenol	96		50-150
Terphenyl-d14	89		60-120

SAMPLE NAME: CCB-Intake-06

ID#: 0304006-16A

File Name: y040721 Date of Collection Dil. Factor: 1.00 Date of Analysis: Date of Extraction			
0	Rpt. Limit		Amount
Cornpound	(ug)		(ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pertachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TENTATI	VELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
			Method
Surrogates	%Recovery		Limits
2-Fluorophenol	76		50-150
Phenol-d5	80		50-150
Nitrobenzene-d5	75		50-150
2-Fluorobiphenyl	75		60-120
2,4,6-Tribromophenol	99		50-150
Terphenyl-d14	91		60-120

SAMPLE NAME: BK-1st Fl. Office-07

ID#: 0304006-17A

File Name: y040722 Dll. Factor: 1.00	lection: 3/29/03 llysis: 4/7/03 raction: 4/1/03		
Cornpound	Rpt. Limit (ug)		Amount (ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TENTATIV	VELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
_			Method
Surrogates	%Recovery		Limits
2-Fluorophenol	78		50-150
Phenol-d5	82		50-150
Nitrobenzene-d5	76		50-150
2-Fluorobiphenyl	77		60-120
2,4,6-Tribromophenol	99		50-150
Terphenyl-d14	88		60-120

SAMPLE NAME: BK-Intake-08

ID#: 0304006-18A

File Name: y04072 Dil. Factor: 1.0	- 10 Marie	Date of Collec Date of Analys Date of Extrac	sis: 4/7/03
	Rpt. Limit		Amount
Cornpound	(ug)		(ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TENTATI	VELY IDENTIFIED COMPOUNDS		
Cornpound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
			Method
Surrogates	%Recovery		Limits
2-Fluorophenol	80		50-150
Phenol-d5	85		50-150
Nitrobenzene-d5	81		50-150
2-Fluorobiphenyl	79		60-120
2,4,6-Tribromophenol	99		50-150
Terphenyl-d14	93		60-120

SAMPLE NAME: BK-Intake-08 Duplicate

ID#: 0304006-18AA

File Name: y040724 Dil, Factor: 1.00		Date of Collect Date of Analys Date of Extrac	sis: 4/7/03
Command	Rpt. Limit		Amount
Compound	(ug)		(ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TENTATI	VELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
_			Method
Surrogates	%Recovery		Limits
2-Fluorophenol	81		50-150
Phenol-d5	85		50-150
Nitrobenzene-d5	80		50-150
2-Fluorobiphenyl	79		60-120
2,4,6-Tribromophenol	99		50-150
Terphenyl-d14	91		60-120

SAMPLE NAME: BK-Dist-09

ID#: 0304006-19A

File Name: k040808 Dif. Factor: 1.00		Date of Collec Date of Analys Date of Extrac	sis: 4/8/03
Communication	Rpt. Limit		Amount
Cornpound	(ug)		(ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TENTATI	VELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-N trochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
			Method
Surrogates	%Recovery		Limits
2-Fluorophenol	64		50-150
Phenol-d5	66		50-150
Nitrobenzene-d5	61		50-150
2-Fluorobiphenyl	69		60-120
2,4,6-Tribromophenol	82		50-150
Terphenyl-d14	94	***************************************	60-120

SAMPLE NAME: BK-Dist-Duplicate-10

ID#: 0304006-20A

File Name: k040809 Dil. Factor: 1.00	사 활성하다 경기 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은 사람들이 다른 사람들이 되었다.	Date of Collec Date of Analys Date of Extrac	sis: 4/8/03
	Rpt. Limit		Amount
Compound	(ug)		(ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TENTATI	VELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-Nitrochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
			Method
Surrogates	%Recovery		Limits
2-Fluorophenol	53		50-150
Phenol-d5	63		50-150
Nitrobenzene-d5	52		50-150
2-Fluorobiphenyl	64		60-120
2,4,6-Tribromophenol	77		50-150
Terphenyl-d14	87		60-120

SAMPLE NAME: Blank-11

ID#: 0304006-21A

File Name: k040810 Dil. Factor: 1.00	진짜 하는 사람이 가지를 하는데 보다 그 나는 사람이 하고 있다.	Date of Collect Date of Analys Date of Extrac	sis: 4/8/03
Communication	Rpt. Limit		Amount
Cornpound	(ug)		(ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TENTATIV	VELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-N trochlorobenzene	100-00-5	NA	Not Detected
Container Type: XAD Tube: VOST			
			Method
Surrogates	%Recovery		Limits
2-Fluorophenol	71		50 -1 50
Phenol-d5	74		50- 1 50
Nitrobenzene-d5	68		50-150
2-Fluorobiphenyl	73		60-120
2,4,6-Tribromophenol	83		50-150
Terphenyl-d14	91		60-120

SAMPLE NAME: Trip Blank 033103

ID#: 0304006-22A

File Name: k04081 DII. Factor: 1.06	그리 경계를 가는 걸다는데 다른 개발하는데 다시까?	Date of Collection: 3/31/03 Date of Analysis: 4/8/03 Date of Extraction: 4/1/03		
	Rpt. Limit		Amount	
Compound	(ug)		(ug)	
Phenol	5.0		Not Detected	
2-Chlorophenol	5.0		Not Detected	
Nitrobenzene	1.0		Not Detected	
2,4-Dichlorophenol	5.0		Not Detected	
2,4,5-Trichlorophenol	5.0		Not Detected	
2,4,6-Trichlorophenol	5.0		Not Detected	
4-Chloroaniline	10		Not Detected	
Pentachlorophenol	20		Not Detected	
Aniline	1.0		Not Detected	
TENTATI	VELY IDENTIFIED COMPOUNDS			
Compound	CAS Number	Match Quality	Amount (ug)	
4-Nitrochlorobenzene	100-00-5	NA	Not Detected	
Container Type: XAD Tube: VOST				
			Method	
Surrogates	%Recovery		Limits	
2-Fiuorophenol	70		50-150	
Phenol-d5	75		50-150	
Nitrobenzene-d5	69		50-150	
2-Fluorobiphenyl	77		60-120	
2,4,6-Tribromophenol	80		50-150	
Terphenyl-d14	92	***************************************	60-120	

SAMPLE NAME: Lab Blank

ID#: 0304006-23A

	The common of the second of the	is: 4/4/03
Rpt. Limit		Amount
		(ug)
		Not Detected
5.0		Not Detected
1.0		Not Detected
5.0		Not Detected
5.0		Not Detected
5.0		Not Detected
10		Not Detected
20		Not Detected
1.0		Not Detected
Y IDENTIFIED COMPOUNDS		
CAS Number	Match Quality	Amount (ug)
100-00-5	NA	Not Detected
		Method
%Recovery		Limits
77		50-150
78		50-150
74		50-150
72		60-120
67		50-150
74		60-120
	(ug) 5.0 5.0 1.0 5.0 5.0 5.0 5.0 10 20 1.0 21 1.0 CAS Number 100-00-5 **Recovery 77 78 74 72 67	Date of Analys

SAMPLE NAME: Lab Blank

ID#: 0304006-23B

File Name: k040806 Dil. Factor: 1.00		Date of Collect Date of Analys Date of Extrac	sis: 4/8/03
	Rpt. Limit		Amount
Compound	(ug)		(ug)
Phenol	5.0		Not Detected
2-Chlorophenol	5.0		Not Detected
Nitrobenzene	1.0		Not Detected
2,4-Dichlorophenol	5.0		Not Detected
2,4,5-Trichlorophenol	5.0		Not Detected
2,4,6-Trichlorophenol	5.0		Not Detected
4-Chloroaniline	10		Not Detected
Pentachlorophenol	20		Not Detected
Aniline	1.0		Not Detected
TENTATIV	ELY IDENTIFIED COMPOUNDS		
Compound	CAS Number	Match Quality	Amount (ug)
4-N:trochlorobenzene	100-00-5	NA	Not Detected
Container Type: NA - Not Applicable			
			Method
Surrogates	%Recovery		Limits
2-Fluorophenol	80		50-150
Phenol-d5	84		50-150
Nitrobenzene-d5	79		50-150
2-Fluorobiphenyl	79		60-120
2,4,6-Tribromophenol	80		50-150
Terphenyl-d14	93		60-120

SAMPLE NAME: LCS

ID#: 0304006-24A

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name:	v040405	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/4/03
		Date of Extraction: 4/1/03
	요시 아이를 살아 그리다.	Date of Extraction. 4/1/03

Compound	%Recovery
Phenol	74
2-Chlorophenol	75
1,4-Dichlorobenzene	70
N-Nitroso-di-n-propylamine	70
1,2.4-Trichlorobenzene	75
4-Chloro-3-methylphenol	78
Acenaphthene	75
4-Nitrophenol	65
2,4-Dinitrotoluene	68
Pentachlorophenol	61
Pyrene	75

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
2-Fluorophenol	70	50-150
Phenol-d5	73	50-150
Nitrobenzene-d5	77	50-150
2-Fluorobiphenyl	77	60-120
2,4,6-Tribromophenol	79	50-150
Terphenyl-d14	77	60-120

SAMPLE NAME: LCS ID#: 0304006-24B

MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name: Dil. Factor:	k040807 1.00	Date of Collection: NA Date of Analysis: 4/8/03
		Date of Extraction: 4/1/03

Compound	%Recovery
Phenol	69
2-Chlorophenol	68
1,4-Dichlorobenzene	64
N-Nitroso-di-n-propylamine	90
1,2,4-Trichlorobenzene	79
4-Chloro-3-methylphenol	85
Acenaphthene	78
4-Nitrophenol	67
2,4-Dinitrotoluene	77
Pentachlorophenol	73
Pyrene	90

Container Type: NA - Not Applicable

		Method
Surrogates	%Recovery	Limits
2-Fluorophenol	59	50-150
Phenol-d5	70	50-150
Nitrobenzene-d5	78	50-150
2-Fluorobiphenyl	79	60-120
2,4.6-Tribromophenol	92	50-150
Terphenyl-d14	96	60-120



CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice

AIR TOXICS LTD. Sample Transportation Notice

Refinquishing a greature on this document indicates that sample is being shoped in our no since FOLSOM, CA 95830-4715. with all applicable local, State kedoral, national, and international awa, regulations and (916) 965-1000 FAX: (916) 965-1020 AN ENVIRONMENTAL ANALYTICAL LABORATORY criminances of any kind. Ar Toxics Limited assumes no liability with respect to the collection, handling or shloping of these samples. Belinouishing signature also indicates agreement to hold harmices, defend, and indemoty Air Toxics Limited against any claim, demand, or action of any kind, related to the collection, handling, or shipping of samples, D.O.T. Notine (800) 467-4922.

180 BLUE RAVINE ROAD, SUITE 5

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice

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180 BLUE RAVINE ROAD SUITER

Page 1 of 1

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CHAIN-OF-CUSTODY RECORD

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180 BLUE HAVINE ROAD, SUITE B

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2474-F41	Florida Power
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Ei	Professional Activities
Ej	Nuclear Relaed Regulations
	Model Evaluation & development
	Exhibit for deposition - W.Kawaters

Attachment D WGK Excavation Procedure

Purpose

The purpose of this procedure is to specify minimum rules and requirements to ensure the safety and health of all personnel at the W.G. Krummrich Plant, including Solutia and contractor employees, visitors and the surrounding community.

Policy

An Excavation Permit will be executed prior to the start of any excavation of any depth by anyone for any purpose. An Excavation Permit will also cover the driving of grounding rods or any other object into the ground and the installation of auger cast piling.

Scope

This procedure sets forth guidance for those individuals at the W. G. Krummrich Plant who may have projects that require excavation as defined by this procedure.

References

W. G. Krummrich Excavation Permit

Attachments

Excavation Permit

Definitions

The following definition is important.

Term	Meaning
Excavation	For purposes of this procedure, excavation will be defined as the any activity that results in the disturbance, displacement or removal of the substrate at any depth for any reason. Also included in this definition is the driving of grounding rods piles and the use of certain push technologies for the purposes of soil, geologic or groundwater testing. The installation of auger cast piling is also covered by this procedure.

Contents

Introduction

Responsibilities

Permit Procedure

Regulatory Classification

Revisions, Review and Approval

Introduction

The ESH Department has developed the following procedure which requires engineers and CMRs to evaluate the site that is to be excavated to minimize any potential hazards that may be associated with excavation at that site. The site must be evaluated for underground utilities, overhead clearance and potential health concerns from contact with contaminated soils.

Responsibilities

The following describes the responsibilities of various personnel involved with this procedure.

Title	Responsibility
Engineering	On project work, Solutia personnel responsible for design shall indicate on construction drawings all nearby underground utilities or service lines, or any other potential obstructions where excavation is required. The plant's Maintenance Group and Environmental Safety and Health (ESH) Group should be consulted during the design process.
Planner/First Line Supervisor	On non-project work, the Planner or First Line Supervisor will review all applicable plant utility reference drawings and perform a field check prior to initiating an excavation permit. The Planner / First Line Supervisor will also consult with the ESH Department to determine if there is any potential for contact with contaminated soils
Maintenance Department	The Maintenance Department will be consulted regarding underground utilities prior to the start of any excavation.
Environmental, Safety & Health Department Personnel	ESH personnel will be consulted regarding any environmental or human health concerns prior to the start of any excavation. ESH personnel will also assist in determining the level of personal protection equipment when there is a potential for contact with contaminated soils.

Procedure

Permit Initiation

The individual responsible for the excavation must evaluate the site that is to

be excavated with regards to underground utilities, overhead clearance and the potential contact with contaminated soils.

The underground utility and overhead clearance evaluation can be completed by reviewing the plant utility drawings and department equipment drawings respectively.

A field check of the area that is to be excavated should also be conducted.

The Maintenance Department should be consulted if there any questions regarding underground utilities.

The ESH Department should be consulted to determine the potential for contact with impacted soils.

ESH Department personnel will:

- Review historical plant drawings to determine if any manufacturing activities took place at the site to be excavated.
- Review historical plant drawings to determine if the area to be excavated is a current or former solid waste management unit, hazardous waste management unit, or area of concern.
- Review available soil sampling data to determine if and what type of contamination exists.

The ESH Department will use this data to determine the level of personnel protection that will be used during the excavation.

Permit Requirements

An Excavation Permit will be issued prior to the start of any excavation of any depth by anyone for any purpose.

The Maintenance and ESH Departments must be notified prior to beginning any excavation.

In no case shall a permit be in use for a period of greater than seven successive shifts or calendar days. The permit must be issued in advance for this period or the original date may be extended by the supervisor responsible for the work.

All permits for excavation in manufacturing areas must be approved by department supervision and the supervisor responsible for the excavation. All permits for work outside of the manufacturing areas need to be approved only by the maintenance group.

The person responsible for the excavation will make a review of all applicable drawings, field checks and notifications to the Maintenance and ESH Departments. The Maintenance Department shall note any special precautions that are to be taken during the excavation. The ESH Department shall determine the level of personnel protection and any special disposal

requirements.

The permit shall be securely fixed at a point immediately adjacent to the excavation and shall be clearly visible at all times. A valid permit must be displayed from the start of excavation through the completion of all activities associated with that excavation.

The responsible person shall inspect the job site each day/shift the permit is in effect and validate that inspection signature. The inspection should:

- Determine if conditions at the excavated site have changed due to climatic conditions.
- Determine if all permit conditions (personal monitoring, etc) are being met.
- In excavations which individuals may be required to enter, determine compliance with the following:
 - Excavations deeper than five feet must be properly shored, sloped or shielded (trench boxes).
 - Excavations deeper than four feet require a ladder or steps for exit.
 - Excavated material must be stored at least two feet from the edge of the excavation.

All excavation permits are to be returned to the ESH Department by the person responsible for the excavation upon completion of the job.

The ESH Department shall review the permits for correctness and completeness.

Complete signatures must be used in every case; not initials.

Regulatory Reference

The following reference can be used for more regarding OSHA compliance and excavations.

• 29 CFR 1926 Subpart P .650

Revisions, Review and Approval

Revision List

The following table shows the recent revision history of this document

Date	Text Affected
6/92	Initial development and issue
6/95	First review and revision.
7/03	Second review and complete revision.

Review and Approval

Author: Bob Hiller, Environmental Specialist	Date
Review: Mark Peal, ESH Lead	Date
Approval: Jerry Lebold, Plant Manager	Date

Attachment E Gravel Survey Report

SUMMARY REPORT

SURFICIAL GRAVEL THICKNESS SURVEY

SOLUTIA INC. W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS

Prepared for Solutia Inc. 500 Monsanto Avenue Sauget, Illinois 62959

January 24, 2003

URS

URS Corporation 2318 Millpark Drive Maryland Heights, MO 63043 (314) 429-0100 Project #21561197.00002

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Table 1	Surficial Gravel Thickness Survey Results	
List of Figures		
Figure 1	Surficial Gravel Thickness Survey Boring Locations	

Surficial Gravel Thickness Survey Isopach Map

Figure 2

SECTIONONE Introduction

On January 14 through 17, 2003, URS Corporation (URS) personnel performed a surficial gravel thickness survey (survey) at Solutia's W.G. Krummrich facility (Facility) located in Sauget, Illinois. The survey was performed as part of the Resource Conservation and Recovery Act (RCRA) Human Health Environmental Indicators (HHEI) study being performed for the Facility. The survey was designed to provide a representation of the approximate thickness of surface gravel as identified on the "Surface Cover Map" dated December 10, 2002 prepared for Solutia by URS (Surface Cover Map).



SECTIONTWO Field Activities

The Facility¹ was divided into a 200-foot by 200-foot grid (see Figure 1) prior to commencement of the field investigation. Individual grid points were identified by their location on a vertical and horizontal axis. Letters A through O identify the horizontal axis location while numbers 1 through 16 identify the vertical axis location. Grid points were located in the field by using a measuring wheel to measure the distance between points and site features or by visually locating the points relative to Facility features. Grid points located within the gravel areas as identified on the Surface Cover Map were then investigated by subsurface methods to determine the approximate gravel thickness at these points. Grid points located within roadways, railroad right-of-ways or underground utility corridors were offset to surrounding gravel areas so that thickness of gravel could be investigated as near as feasible to the proposed locations. In addition, grid points that were located slightly within the footprint of structures or paved areas were also offset into the surrounding gravel areas and investigated. Grid points within the footprint of structures or paved areas which were greater than approximately 50 feet from surrounding gravel areas were not offset and additional subsurface investigation was not performed at these locations. Based on the above criteria, a total of 81 locations were evaluated.

Subsurface investigation at the approximate location of each applicable grid point was performed by the use of a hand-held rotary hammer utilizing ½-inch and 1-inch diameter drill bits. The drill bit was advanced to the bottom of gravel, refusal or 24 inches below ground surface, whichever occurred first. The thickness of gravel at each boring location was measured and recorded. The boring location was then identified with Universal Transverse Mercator (UTM) coordinates by the use of a hand-held Global Positioning System (GPS) unit. Slight variations of each boring location compared to the planned location as identified on the grid system are a result of offsetting the boring because of the previously listed circumstances or due to the accuracy of the measuring system. Each borehole was backfilled with the materials removed from the hole during drilling and the surface was smoothed to match surrounding grade.

UTM coordinates, thickness of gravel, total depth drilled, type of surficial gravel and underlying subsurface materials at each boring location are identified in Table 1.

The work was performed in the main Facility property and did not include ancillary properties, i.e., Lot F and the Riverfront Terminal.



Gravel thickness at the Facility ranges from one-half inch to greater than 24 inches. Gravel thickness measurements are identified on Figure 1 and Table 1. An isopach map showing estimated gravel thickness throughout the entire Facility can be viewed in Figure 2. The actual thickness of gravel at boring locations having a total thickness of equal to or less than 24 inches is identified, whereas locations having gravel greater than 24 inches are only identified as greater than 24 inches.



"Surface Cover Map" dated December 10, 2002 prepared for Solutia by URS.

Table 1 **Surficial Gravel Thickness Survey Results** Solutia Inc. W.G. Krummrich Facility Sauget, Illinois

Grid Location		UTM Coordinate		Gravel Thickness	Total Depth	Surface Gravel	Media Below	
Х	Υ	(x)	(y)	(inches)	(inches)	Description	Gravel	
A	4	746928	4276044	16	18	1-Inch minus/fines	Soil	
A	13	746373	4276189	8	10	1-inch clean	Soil	
A.	14	746339	4276194	2	4	1-inch clean	Soil	
A.	15	746279	4276201	6	8	1-inch clean	Soil	
A.	16	746226	4276208	0.5	2	1-inch clean	Soil	
В	3	746950	4275997	20	24	1-Inch minus/fines	Soil	
В	4	746885	4276004	13	18	1-Inch minus/fines	Soil	
В	7	746729	4276036	16	18 '	1-inch minus	Cinders/Soil	
В	10	746551	4276101	4	6	2-inch minus	Cinders	
В	11	746486	4276124	1	5	1-inch minus	Cinders	
В	12	746432	4276122	>24	24	Fines	N/A	
В	13	746370	4276131	>24	24	Fines	N/A	
В	14	746323	4276151	10	16	Fines	Cinders	
В	15	746252	4276165	17	18	Fines	`Soil	
С	2	746986	4275906	19	32	1-Inch minus/fines	Soil	
С	3	746936	4275948	12	12	1-Inch minus/fines	Refusal	
C	4	746874	4275953	16	18	1-Inch minus/fines	Soil	
C	5	746813	4275941	9	18	1-inch minus	Cinders/Soil	
С	6	746769	4275987	8	10	1-inch minus	Cinders/Soil	
C	7	746712	4275978	16	16	1-inch minus/variable	Refusal	
C	10	746535	4276020	17	18	2-inch minus	Soil	
C	11	746473	4276061	>24	32	Fines	N/A	
С	12	746419	4276061	18	32	Fines	Soil	
С	13	746355	4276071	18-20*	32	Fines	Soil	
С	14	746300	4276087	>24	32	Fines	Soil	
C	15	746237	4276106	10	12	Fines	Cinders/Soil	
D	1	747052	4275884	10-12*	24	1-inch clean	Soil	
D	2	746989	4275882	16	18	1-Inch minus/fines	Soil	
D	3	746933	4275895	17	24	1-inch minus	Soil	
D	4	746868	4275885	9	18	Fines	Cinders/Soil	
D	5	746840	4275915	8	18	1-inch minus/fines	Soil	
D	7	746695	4275934	14-15*	18	Fines	Soil	

Notes:

- 1. UTM denotes Universal Transverse Mercator coordinate system.
- 2. N/A denotes gravel extends beneath total depth of boring.
- The gravel thicknesses are believed to be accurate to within approximately one inch.
 "Unable to determine exact depth of interface between gravel and underlying subsurface media.



Table 1 - Continued

Grid Location		UTM Coordinate		1	Total	Surface Gravel	Media Below
X	Y				Depth	Description	Gravel
1		(x)	(y)	(inches)	(inches)		
D	11	746444	4275987	12	18	Fines	Soil
D	12	746414	4275999.	17	18	Fines	Soil
D	13	746339	4276031	22	32	Fines	Sand
D	14	746284	4276023	14	18	1-inch minus	Cinders
D	15	746221	4276029	19	24	Fines	Soil
D	16	746172	4276037	17	18	Fines	Soil
E	2	746974	4275797	9	12	Rock chips/compacted	Cinders/Soil
E	3	746919	4275817	18-19*	19	Rock chips/compacted	Cinders
E	4	746871	4275836	16	18	Rock chips/compacted	Cinders/Soil
E	10	746493	4275910	14	18	Fines	Soil
E	11	746433	4275923	10	15	1/4-inch minus	Soil
E	12	746380	4275949	0.5	2	1-inch minus	Soil
E:	15	746221	4275960	>24	24	Fines	N/A
E.	16	746157	4275982	>24	24	Fines	N/A
F	3	746921	4275768	15	18	Rock chips/compacted	Cinders/Soil
F	4	746850	4275765	11	15	Rock chips/compacted	Soil
F	5	746789	4275796	10-11*	18	1-inch clean	Soil
F	6	746727	4275827	11	18	1-inch minus	Cinders/Soil
F	10	746485	4275853	17	18	1-inch minus	Soil
F	12	746362	4275875	14	18	1-inch minus	Soil
F	13	746320	4275887	18	18	1-inch minus	Cinders/Soil
F	15	746205	4275913	>24	24	Fines	N/A
F	16	746143	4275926	>24	24	Fines	N/A
G	6	746719	4275750	9	11	1-inch minus	Soil
G	7	746645	4275745	13-14*	18	1-inch minus	Soil
G	11	746405	4275812	9	12	1-inch minus	Soil
G	12	746360	4275809	20	24	1-inch minus	N/A
H	6	746690	4275708	13	18	Rock chips/compacted	Soil
Н	11	746393	4275734	9	12	1-inch minus	Soil
H	12	746345	4275770	20	32	1-inch minus	Soil
	11	746377	4275697	4	6	1-inch minus	Soil
	12	746327	4275697	6-9*	18	1-inch minus	Soil

Notes:

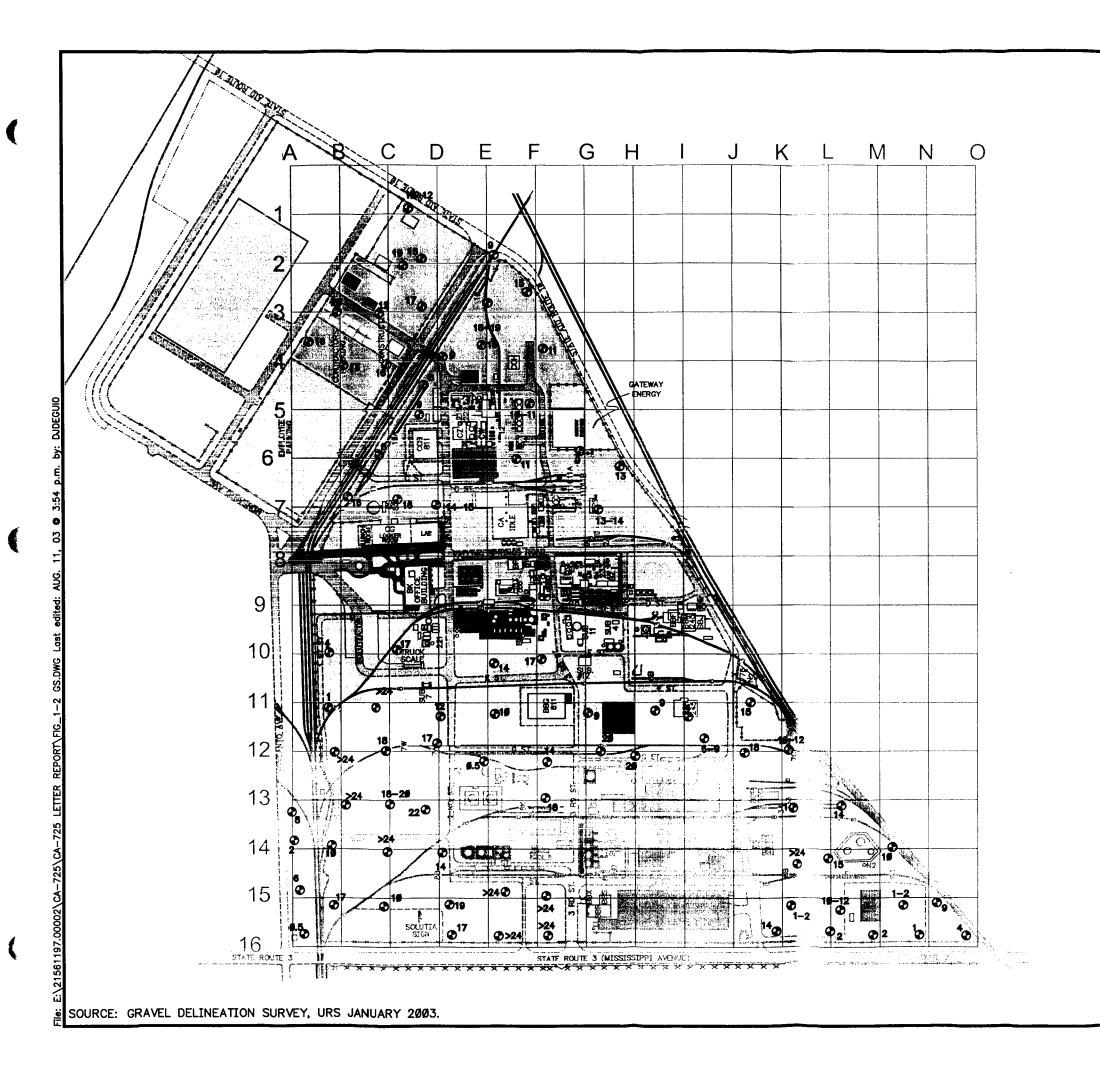
- 1. UTM denotes Universal Transverse Mercator coordinate system.
- 2. N/A denotes gravel extends beneath total depth of boring.
- 3. The gravel thicknesses are believed to be accurate to within approximately one inch.
- 4. *Unable to determine exact depth of interface between gravel and underlying subsurface media.

Table 1 - Continued

Gr L.oca	rid ation	UTM Co	ordinate	Gravel Thickness	Total Depth	Surface Gravel	Media Below Gravel
Х	Υ	(x)	(y)	(inches)	(inches)	Description	
J	11	746377	4275620	15	18	1-inch minus	Soil
J	12	746319	4275641.	18	32	1-inch minus	Sand
K	12	746274	4275563	10-12*	12	1-inch minus	Railroad Tie
К	13	746240	4275598	1	2	1/2-inch clean	Soil
K	14	746173	4275609	>24	24	Fines	N/A
K	15	746126	4275628	1-2*	8	Variable/sparse	Cinders/Soil
K	16	746089	4275654	14	18	1-inch clean	Soil/Cinders
L	13	746230	4275541	14	18	1/2-inch clean	Cinders/Soil
L	14	746172	4275571	15	18	Fines	Cinders
L	15	746108	4275571	10-12*	14	1-inch clean	Cinders/Soil
L	16	746061	4275592	2	4	Fines	Cinders
M	14	746167	4275493	10	12	1-inch minus	Cinders
M	15	746096	4275496	1-2*	6	Variable/sparse	Cinders
M	16	746054	4275542	2	4	1-inch minus	Cinders
N	15	746090	4275456	9	18	Variable/sparse	Soil
N	16	746045	4275486	1	4	1-inch minus	Cinders
0	16	746031	4275427	4	6	1-inch minus	Cinders/Soil

Notes:

- 1. UTM denotes Universal Transverse Mercator coordinate system.
- 2. N/A denotes gravel extends beneath total depth of boring.
- 3. The gravel thicknesses are believed to be accurate to within approximately one inch.
- 4. *Unable to determine exact depth of interface between gravel and underlying subsurface media



LEGEND

GRASS

ASPHALT

ROADWAY

GRAVEL

BUILDINGS (EMPLOYEES PRESENT)

CONCRETE

TANKS

ENCLOSED STRUCTURES (PART TIME)

GRAVEL THICKNESS DELINEATION POINT WITH GRAVEL THICKNESS AT THAT POINT SHOWN IN

NOTES:

- 1) GRID SHOWS PLANNED DELINEATION POINTS.
- 2) ACTUAL POINTS VARY SLIGHTLY DUE TO THE PRESENCE OF UNDERGROUND UTILITIES, ROADS, RAILROADS AND STRUCTURES OR SLIGHT DEVIATIONS INCURRED WHILE MEASURING THE LOCATIONS IN THE FIELD.



CA-725 CURRENT HUMAN EXPOSURES UNDER CONTROL SOLUTIA W.G. KRUMMRICH PLANT SAUGET, ILLINOIS

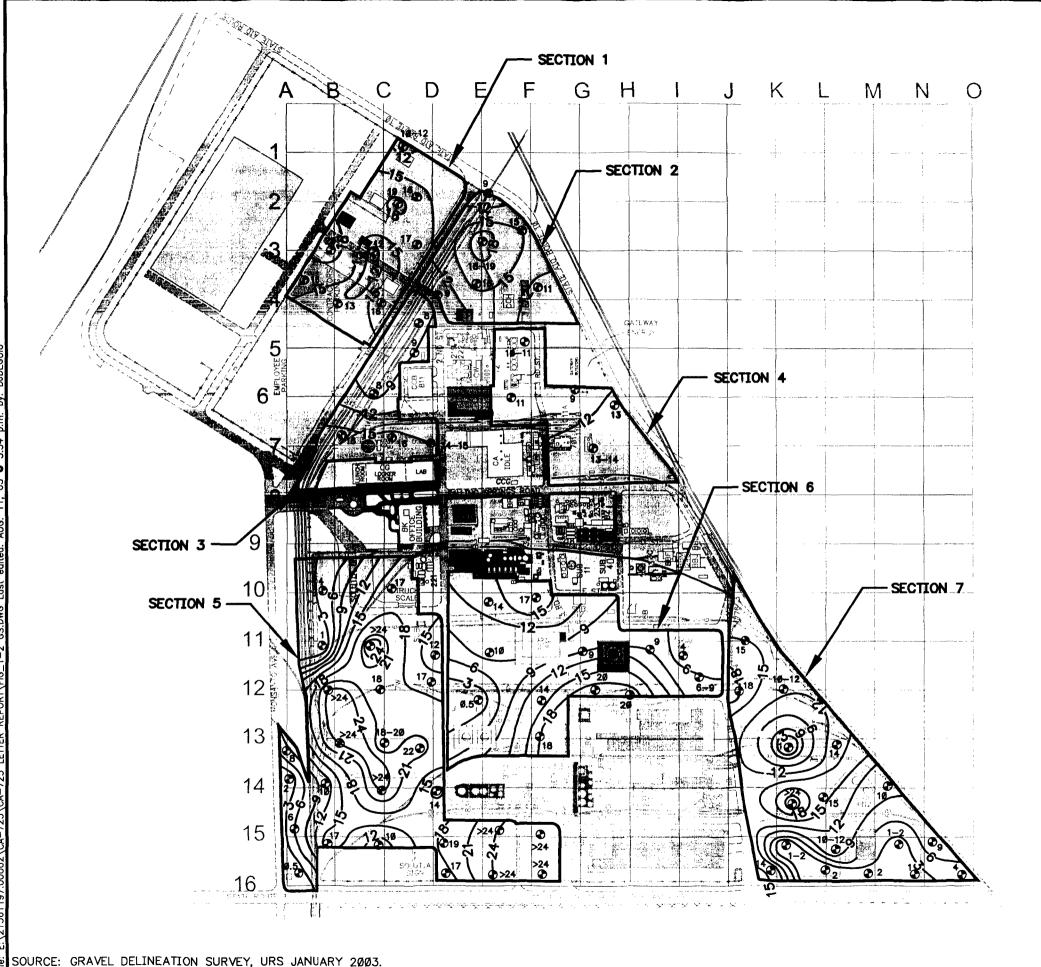
PROJECT NO. 21561197.000002

FIG. NO.

URS

DRN. BY: djd 7/8/Ø3 DSGN. BY: ekf/kah CHKD. BY:

Surficial Gravel Thickness Survey **Boring Locations**



LEGEND

GRASS

ASPHALT

ROADWAY

GRAVEL

BUILDINGS (EMPLOYEES PRESENT)

CONCRETE

TANKS

ENCLOSED STRUCTURES (PART TIME)

GRAVEL THICKNESS DELINIATION POINT WITH **GRAVEL THICKNESS AT THAT POINT SHOWN IN**

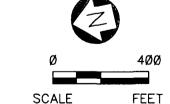
ISOPACH LINE SHOWING GRAVEL THICKNESS IN

BOUNDARY OF SECTIONS USED FOR THE PURPOSE OF CONSTRUCTING ISOPACH LINES. SECTIONS IDENTIFIED AS SECTION 1 THROUGH SECTION 7.

NOTES:

18

- 1) GRID SHOWS PLANNED DELINEATION POINTS.
- 2) ACTUAL DELINEATION POINTS VARY SLIGHTLY FROM PLAN DUE TO THE PRESENCE OF UNDERGROUND UTILITIES, ROADS, RAILROADS AND STRUCTURES OR SLIGHT DEVIATIONS INCURRED WHILE MEASURING THE LOCATIONS IN THE FIELD.
- 3) ISOPACH LINES WERE GENERATED USING SURFER VERSION 7.0 SOFTWARE. THE FACILITY WAS DIVIDED INTO SEVEN SECTIONS AS SHOWN FOR THE PURPOSE OF CONSTRUCTING ISOPACH LINES OF ASSUMED GRAVEL THICKNESS. ISOPACH LINES SHOWING THE ASSUMED GRAVEL THICKNESS WITHIN EACH SECTION WERE DRAWN USING ONLY THE DELINEATION POINTS LOCATED WITHIN THE BOUNDARIES OF THAT SECTION.



CA-725 CURRENT HUMAN EXPOSURES UNDER CONTROL SOLUTIA W.G. KRUMMRICH PLANT SAUGET, ILLINOIS

PROJECT NO. 21561197.000002

URS

DRN. BY: djd 1/22/Ø3 DSGN. BY: ekf/kah CHKD. BY:

Surficial Thickness Survey Isopach Map

FIG. NO.